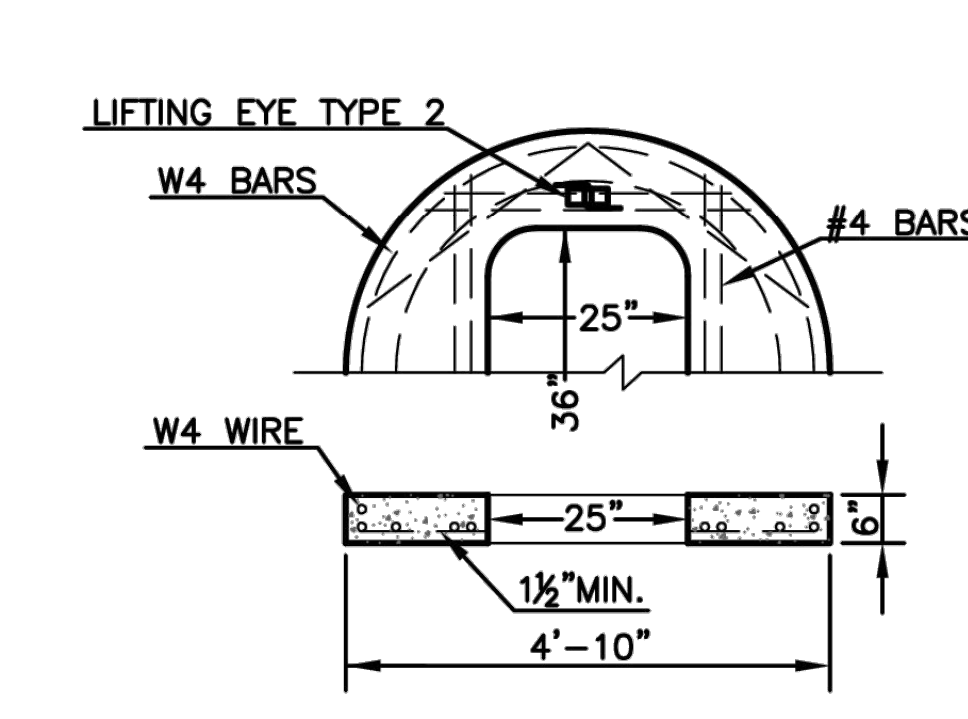
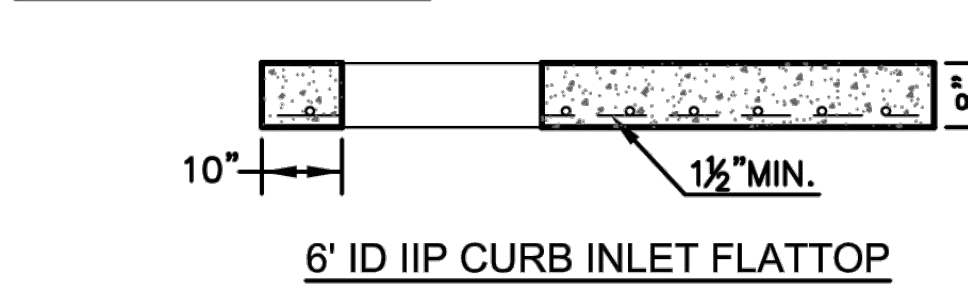
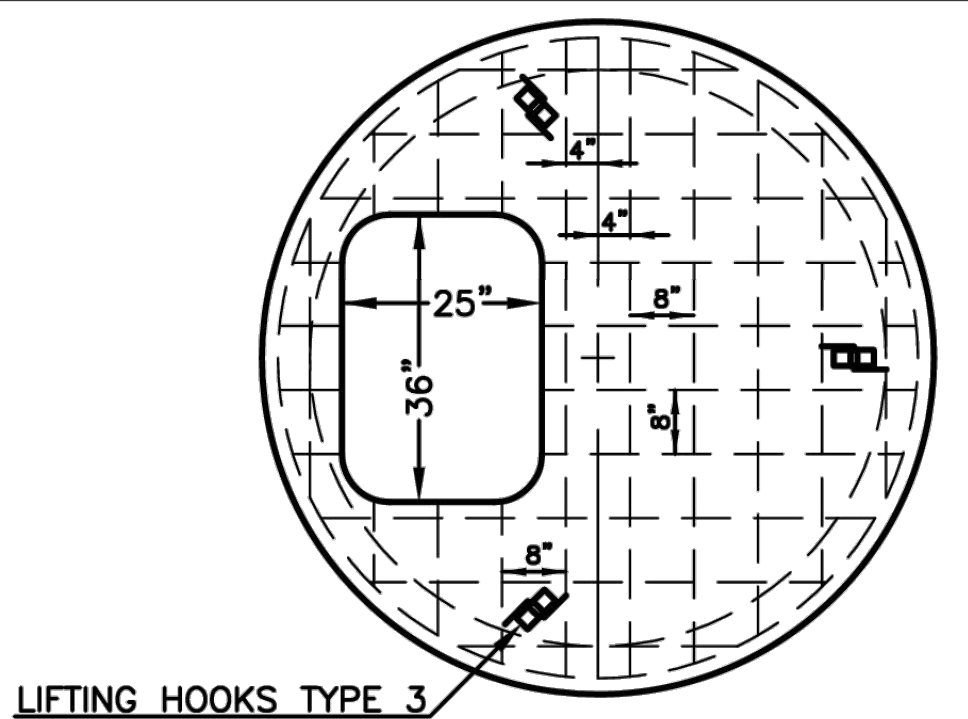


NOTE: PIPE BLOCKOUT VARIES WITH PIPE SIZE, MATERIAL AND ALIGNMENT AND SHALL ALLOW 3" CLEAR FROM PIPE TO WALL

**PRECAST INLET BOX RISER**



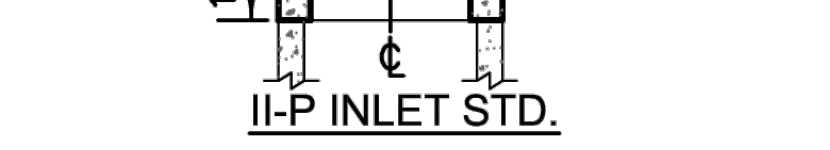
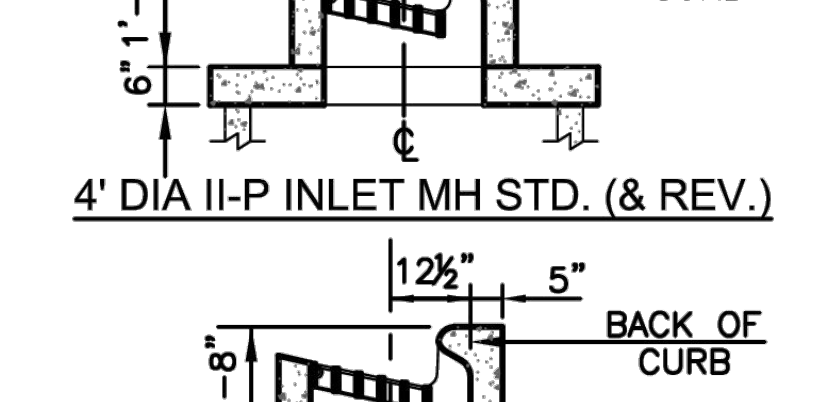
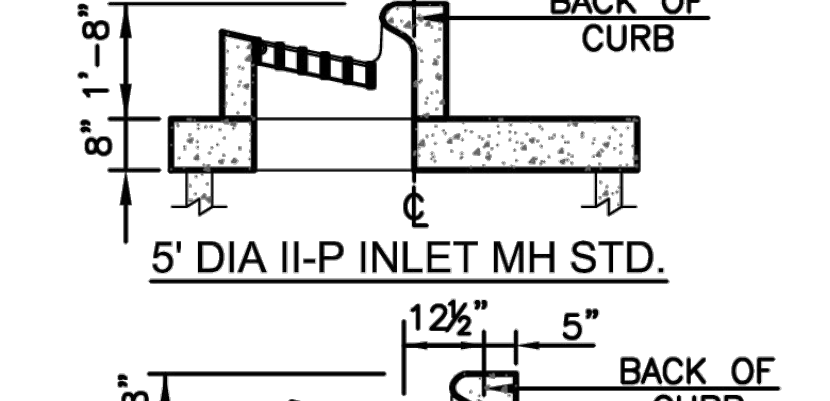
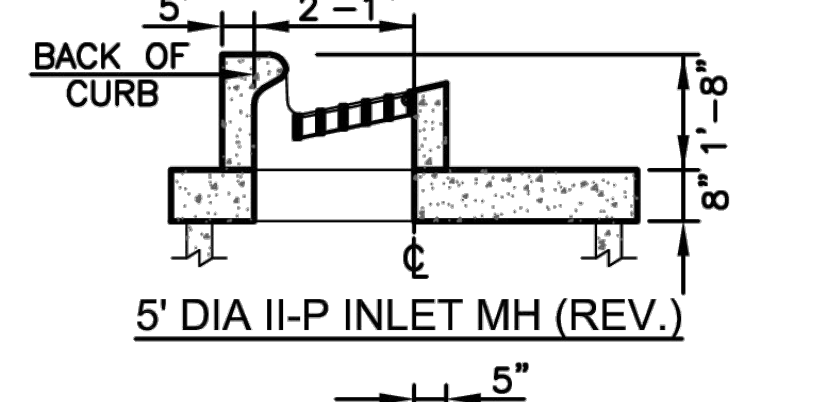
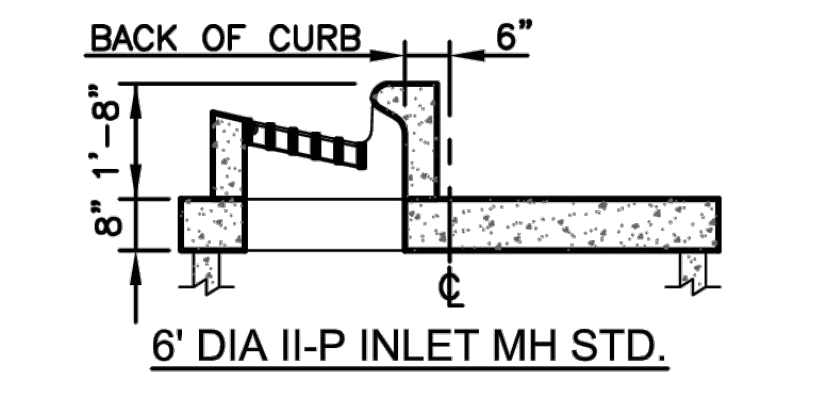
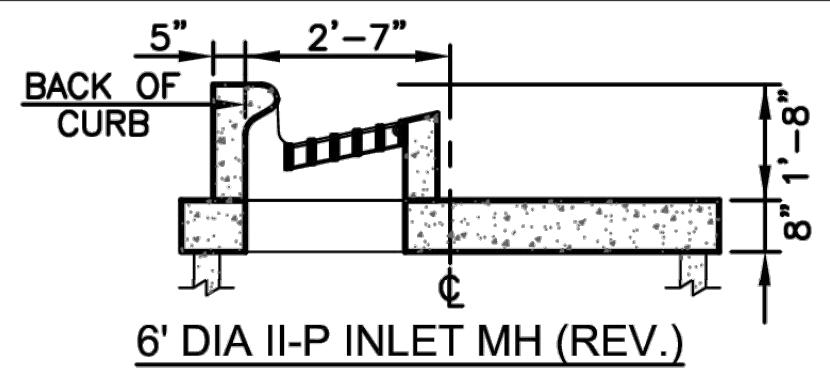
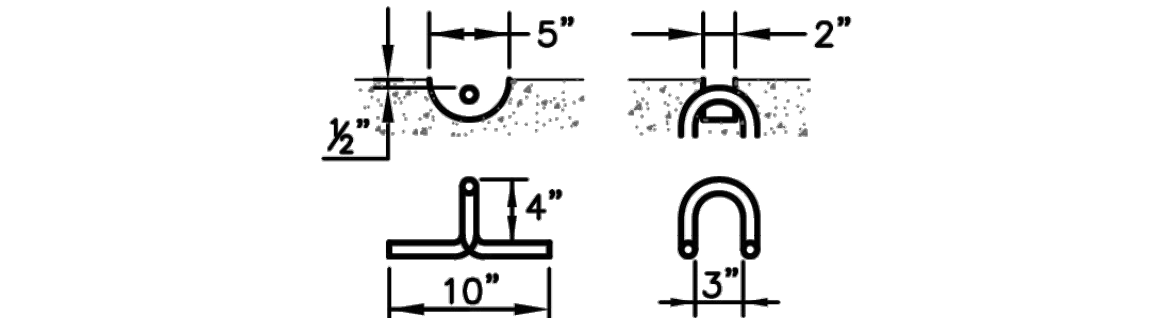
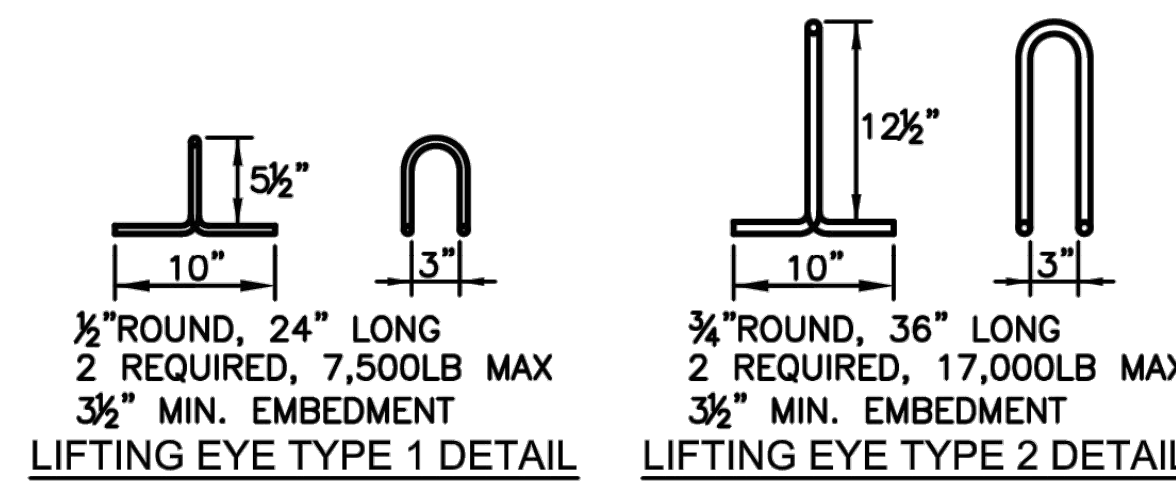
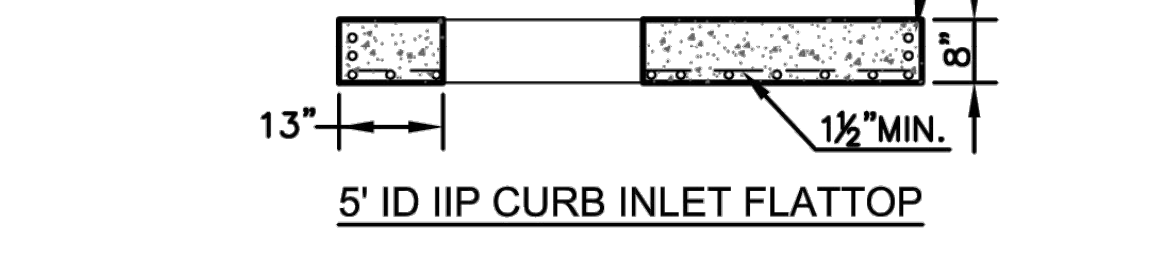
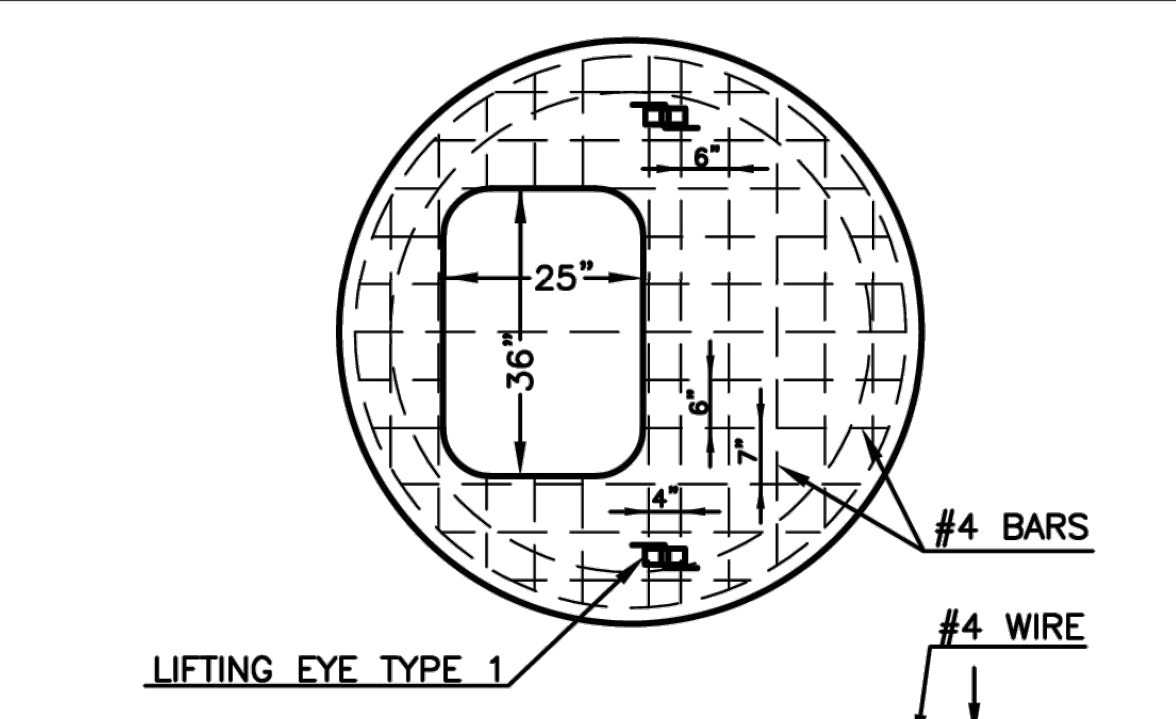
**PRECAST INLET MANHOLE TOP NOTES**

1. ALL REINFORCING SHALL BE #4 BARS EXCEPT AS NOTED
2. ALL CLEARANCE SHALL BE 1-1/2" EXCEPT AS NOTED

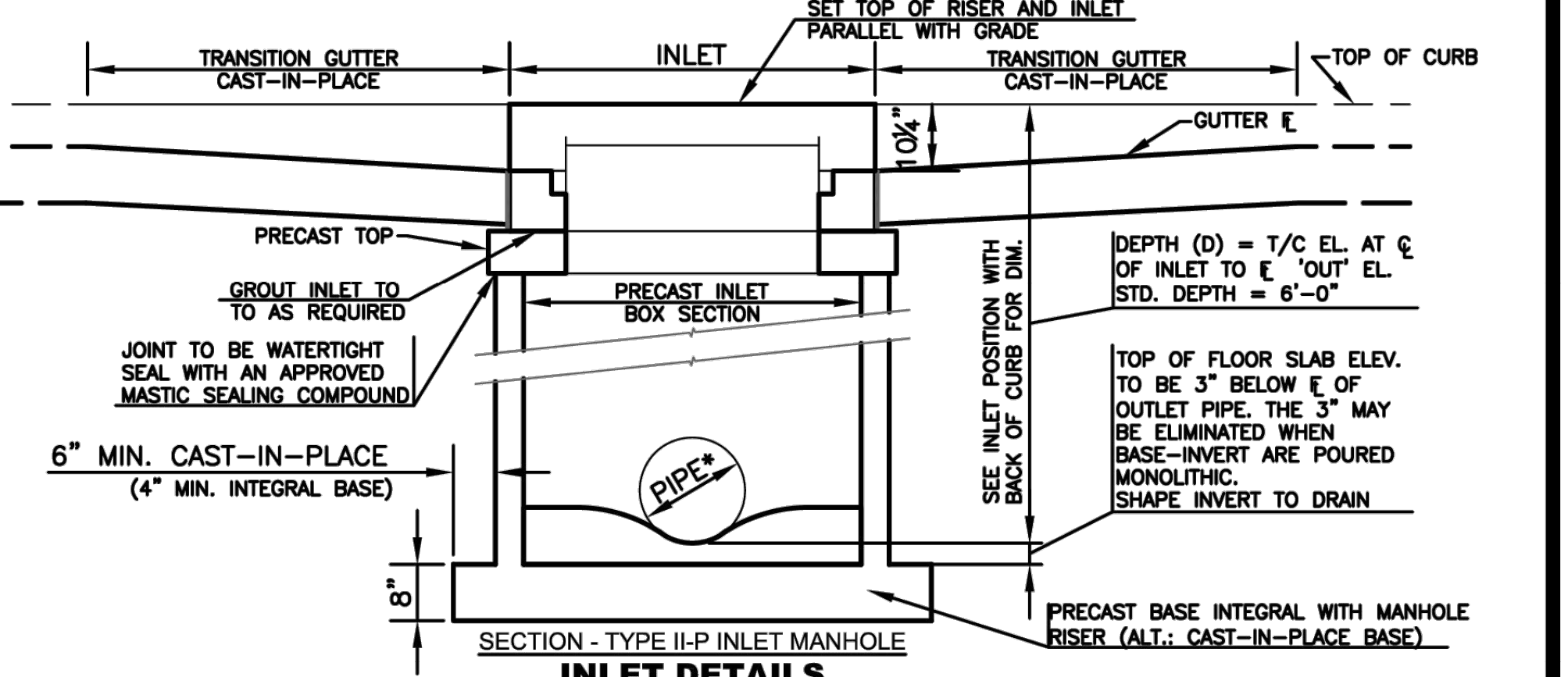
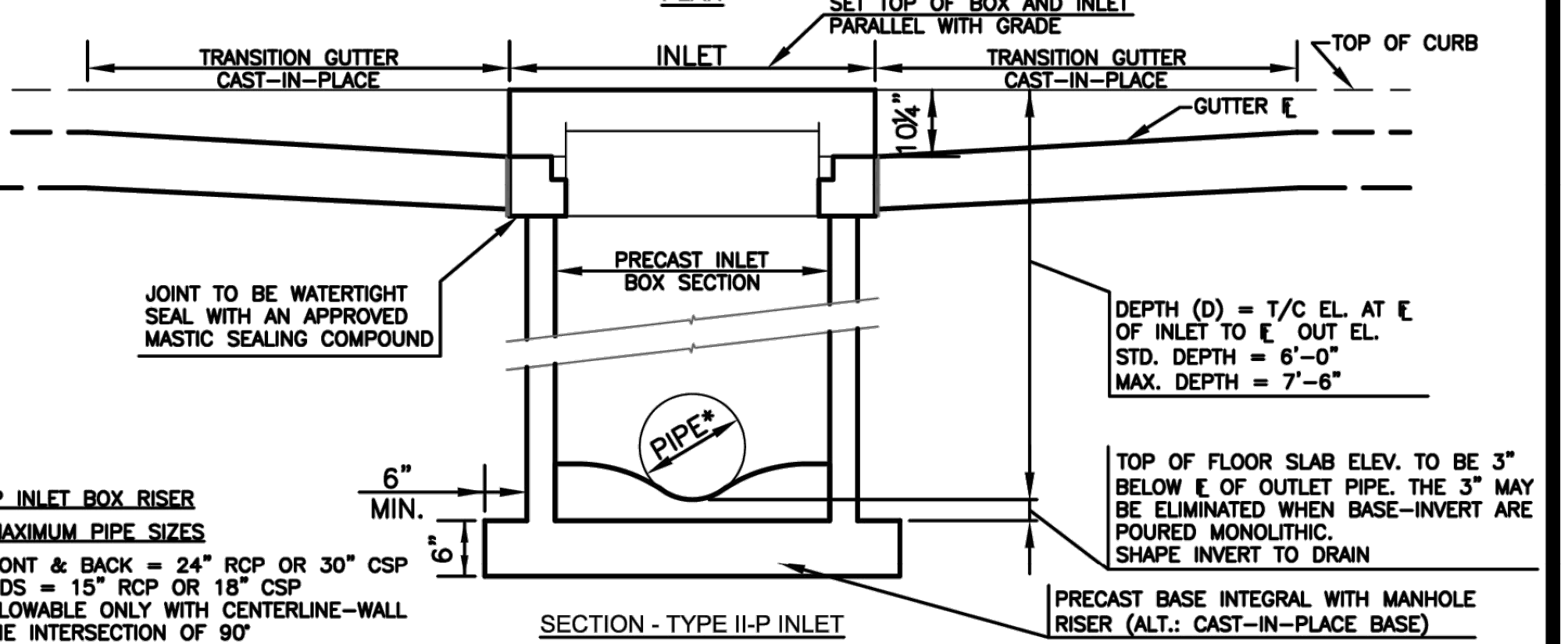
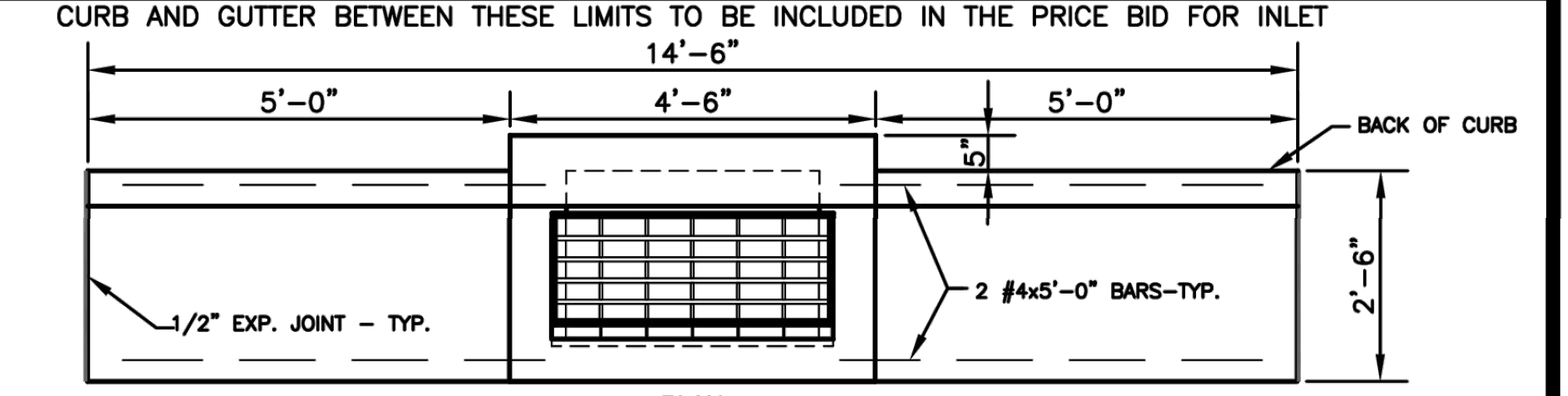
**PRECAST INLET MANHOLE RISER NOTES**

1. ALL MANHOLE RISER SECTIONS SHALL CONFORM TO A.S.T.M. 478-80.
2. ALL MANHOLE CONSTRUCTION SHALL BE WATERTIGHT.
3. STEPS SHALL BE PS1-PF OR PS2-PF AS MANUFACTURED BY M.A. INDUSTRIES INC. OF APPROVED EQUAL AND SHALL BE PLACED TO PROVIDE EASY ACCESS TO MANHOLE AT 16" O.C. MAX. WHILE MAINTAINING VERT. ALIGNMENT.

**PRECAST INLET MANHOLE RISER & TOP**



**INLET POSITIONS WITH BACK OF CURB**



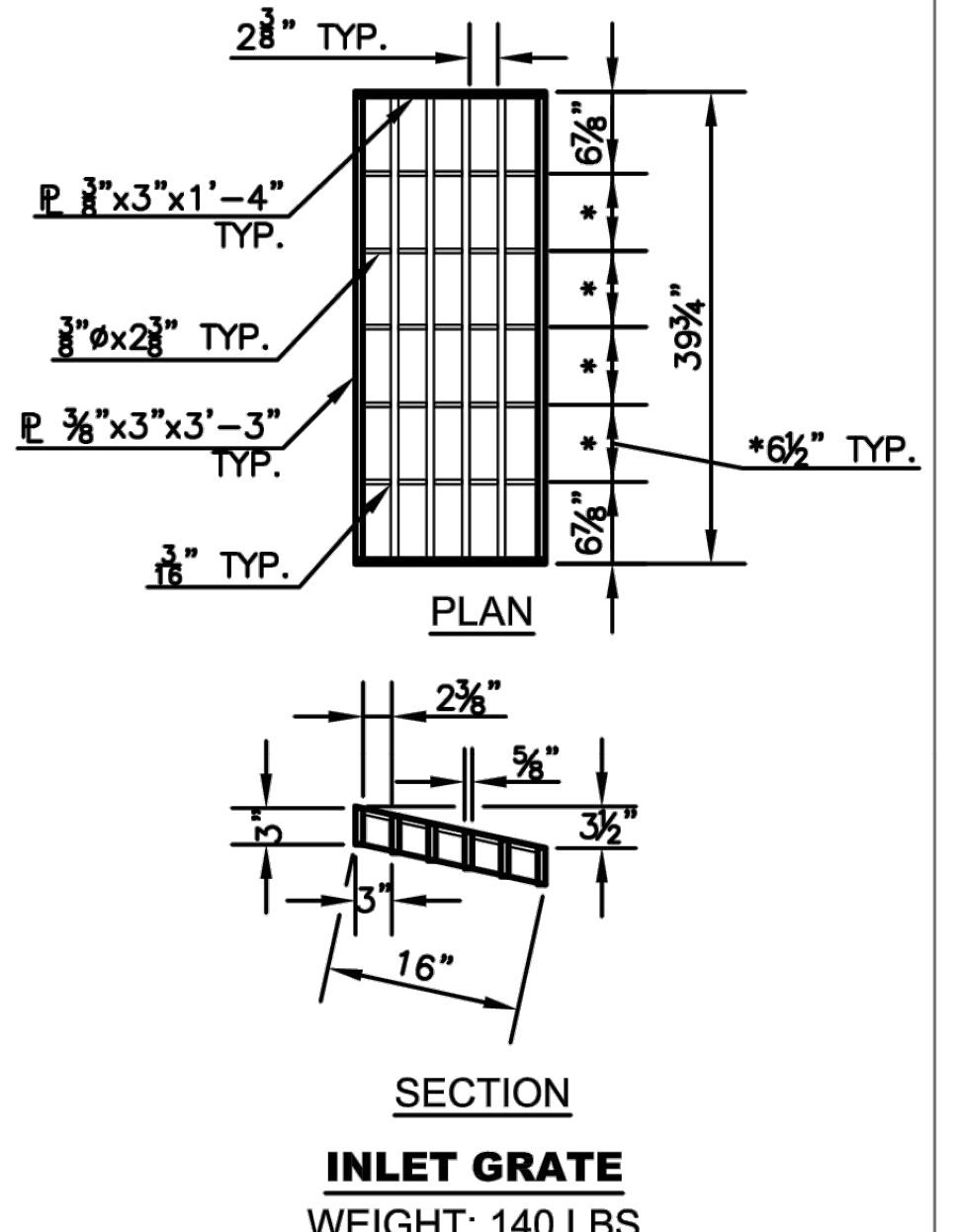
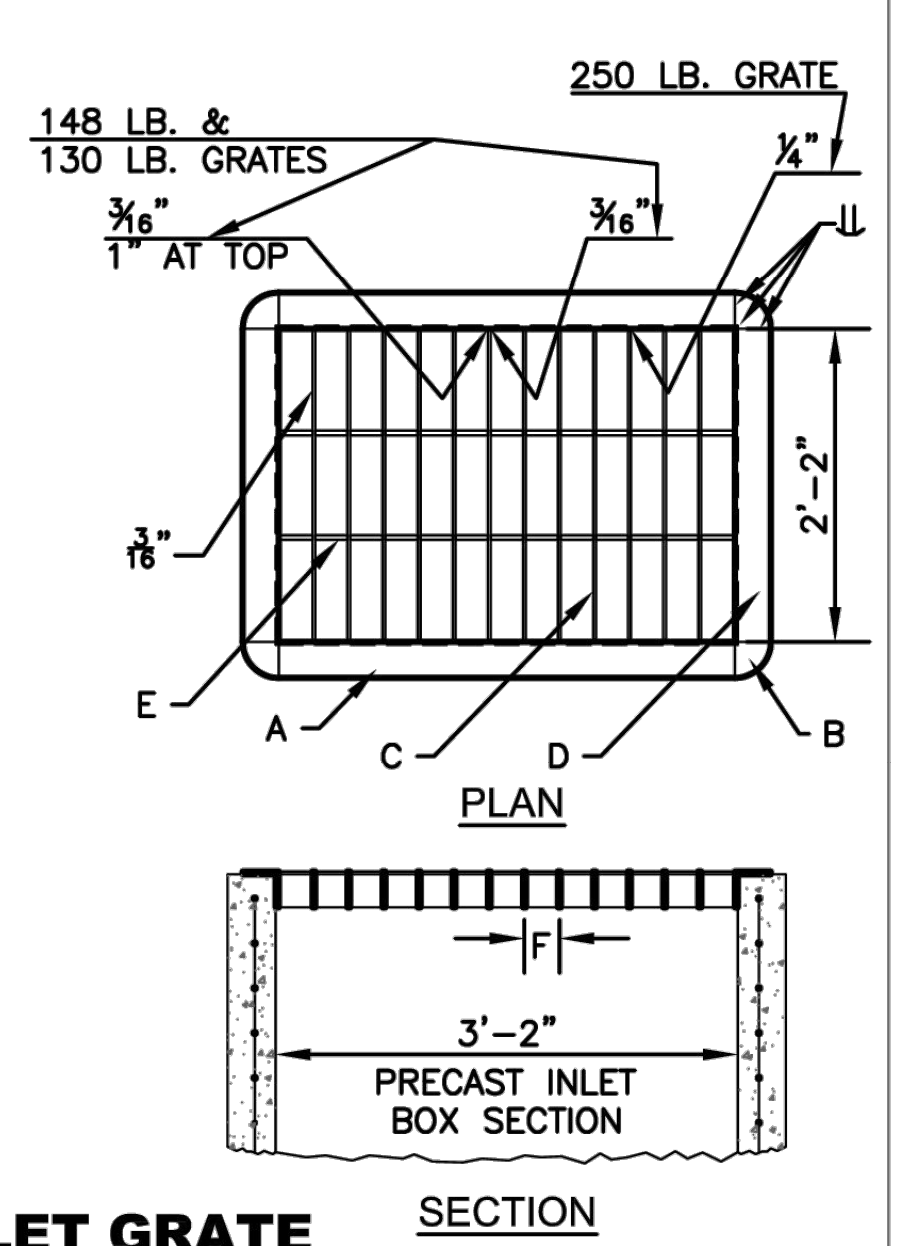
NOTE: THE BOTTOM SECTION OF ALL CAST-IN-PLACE MANHOLES AND PRECAST MANHOLES NOT BUILT MONOLITHICALLY WITH THE BASE SHALL BE SET INTO A STEEL REINFORCED (#4 @ 12" E.W.) CONCRETE BASE (4,000 PSI) A MINIMUM OF 4 INCHES. IN THIS CASE, THE BASE THICKNESS SHALL BE INCREASED BY 4 INCHES.

148 LB. PEDESTRIAN GRATE	
A	2 EA. 1/2" x 3/4" x 3'-3"
B	4 EA. 1/2" x 3/4" x 0'-3"
C	25 EA. 1/2" x 2'-1"
D	2 EA. 1/2" x 3/4" x 2'-1"
E	52 EA. 1/2" x 1/4" x 0'-1"
F	1-1/8" O.C.

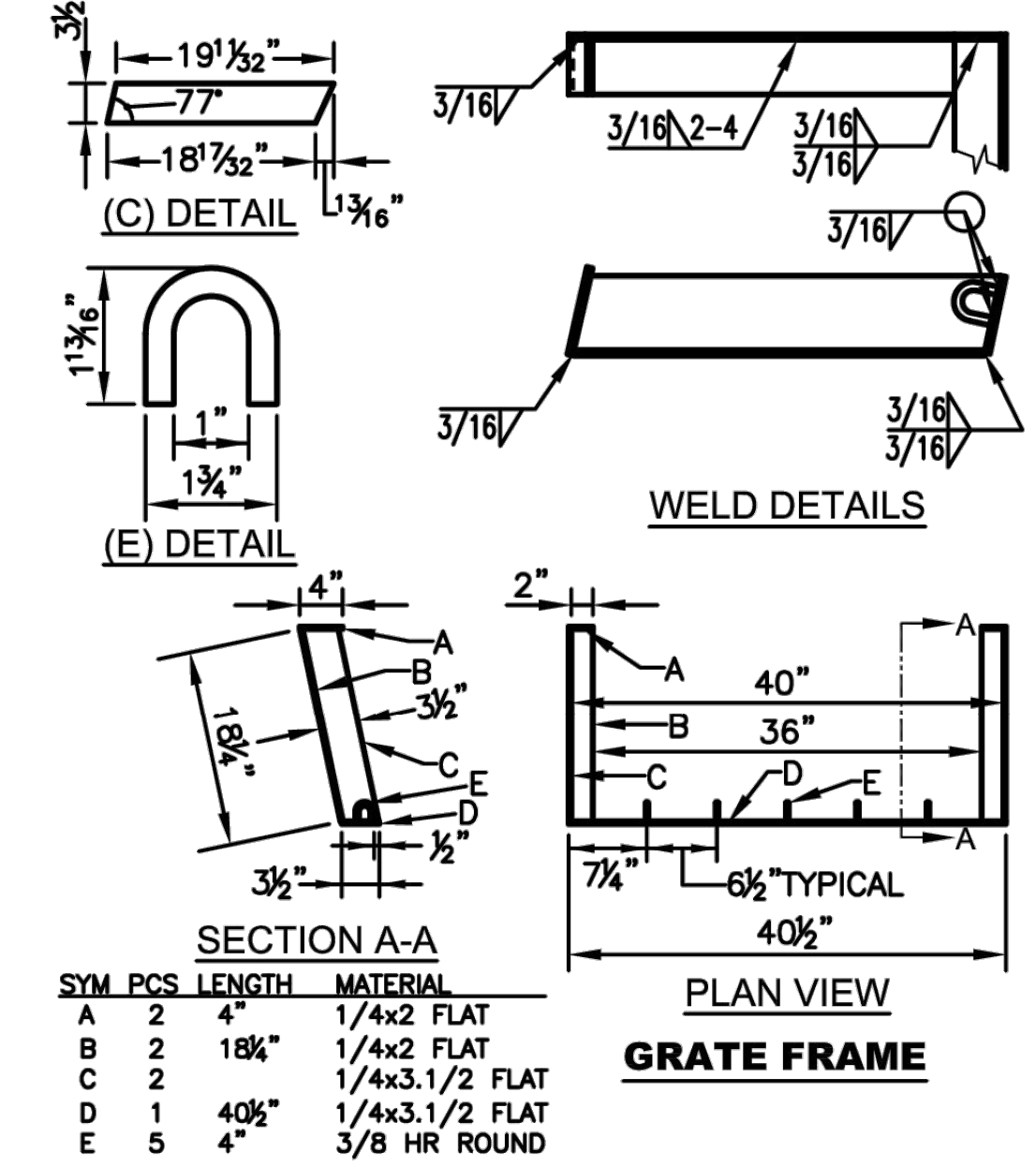
250 LB. TRAFFIC GRATE	
A	2 EA. 1/2" x 3/4" x 3'-3"
B	4 EA. 1/2" x 3/4" x 0'-3"
C	12 EA. 1/2" x 3/4" x 2'-1"
D	2 EA. 1/2" x 3/4" x 2'-1"
E	26 EA. 1/2" x 3/4" x 0'-2"
F	2 1/4" O.C.

130 LB. YARD GRATE	
A	2 EA. 1/2" x 3/4" x 3'-3"
B	4 EA. 1/2" x 3/4" x 0'-3"
C	12 EA. 1/2" x 3/4" x 2'-1"
D	2 EA. 1/2" x 3/4" x 2'-1"
E	26 EA. 1/2" x 3/4" x 0'-2"
F	2 1/4" O.C.

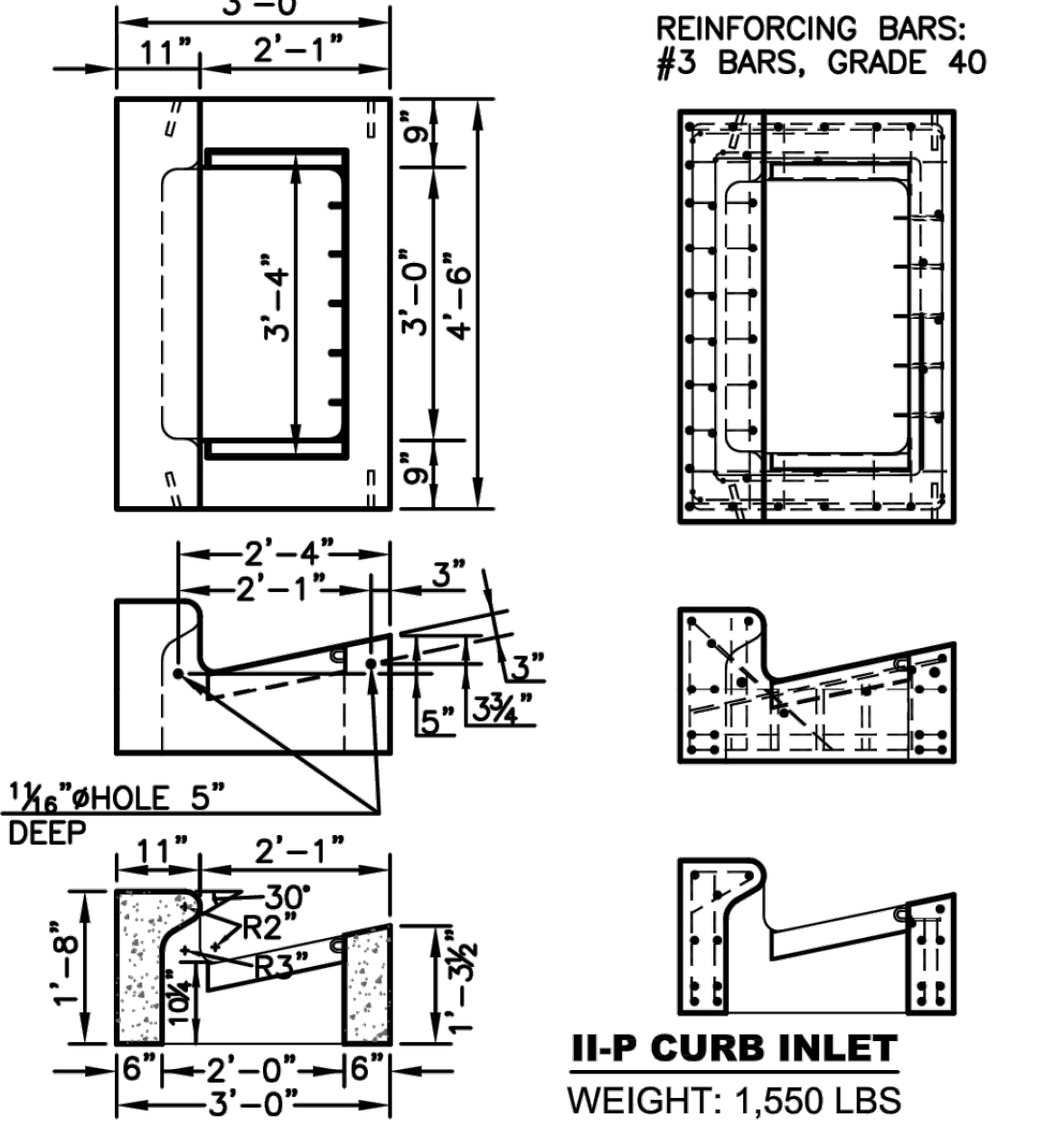
**AREA INLET GRATE**



**INLET GRATE**  
WEIGHT: 140 LBS



**GRATE FRAME**



**II-P CURB INLET**  
WEIGHT: 1,550 LBS

- NOTES:
1. CAST IN PLACE CONC. SHALL BE 4000PSI.
  2. PRECAST CONC. SHALL BE 4000 PSI.
  3. REINFORCING WIRE SHALL CONFORM TO ASTM A82.
  4. REINFORCING BARS SHALL CONFORM TO ASTM A615.
  5. GROUT ALL PIPES IN PLACE.
  6. GRATES & FRAMES SHALL BE ASTM A36 STEEL COATED WITH BITUMASTIC BLACK SOLUTION (COAL TAR BASE) AS MANUFACTURED BY KOPPERS OR APPROVED EQUAL.
  7. THE INLET TOP SHALL SIT SQUARELY ON TOP OF THE INLET BOTTOM SECTION. THE INLET WALLS SHALL NOT BE OFFSET MORE THAN ONE INCH BETWEEN TOP AND BOTTOM SECTIONS.
  8. MAXIMUM PIPE INTRUSION INTO STRUCTURE IS 6". UNIQUE STRUCTURES MIGHT REQUIRE ADDITIONAL ANALYSIS. ENGINEER APPROVAL REQUIRED.

**STANDARD DETAILS**

**TYPE II-P INLET**  
(PRECAST)  
(DT-011)

DATE: APR 2026  
SHEET: 53 OF 122  
PROJ.: 701038.00

NO.	DATE:	REVISION	BY:	APP'D
3	June 2018	Added maximum pipe intrusion note	DHS	JVH
2	Dec. 2009	Mod. dim at Inl. Pos. & added 7.to NOTES	DHS	SB
1	Feb. 2008	Update	DHS	SB

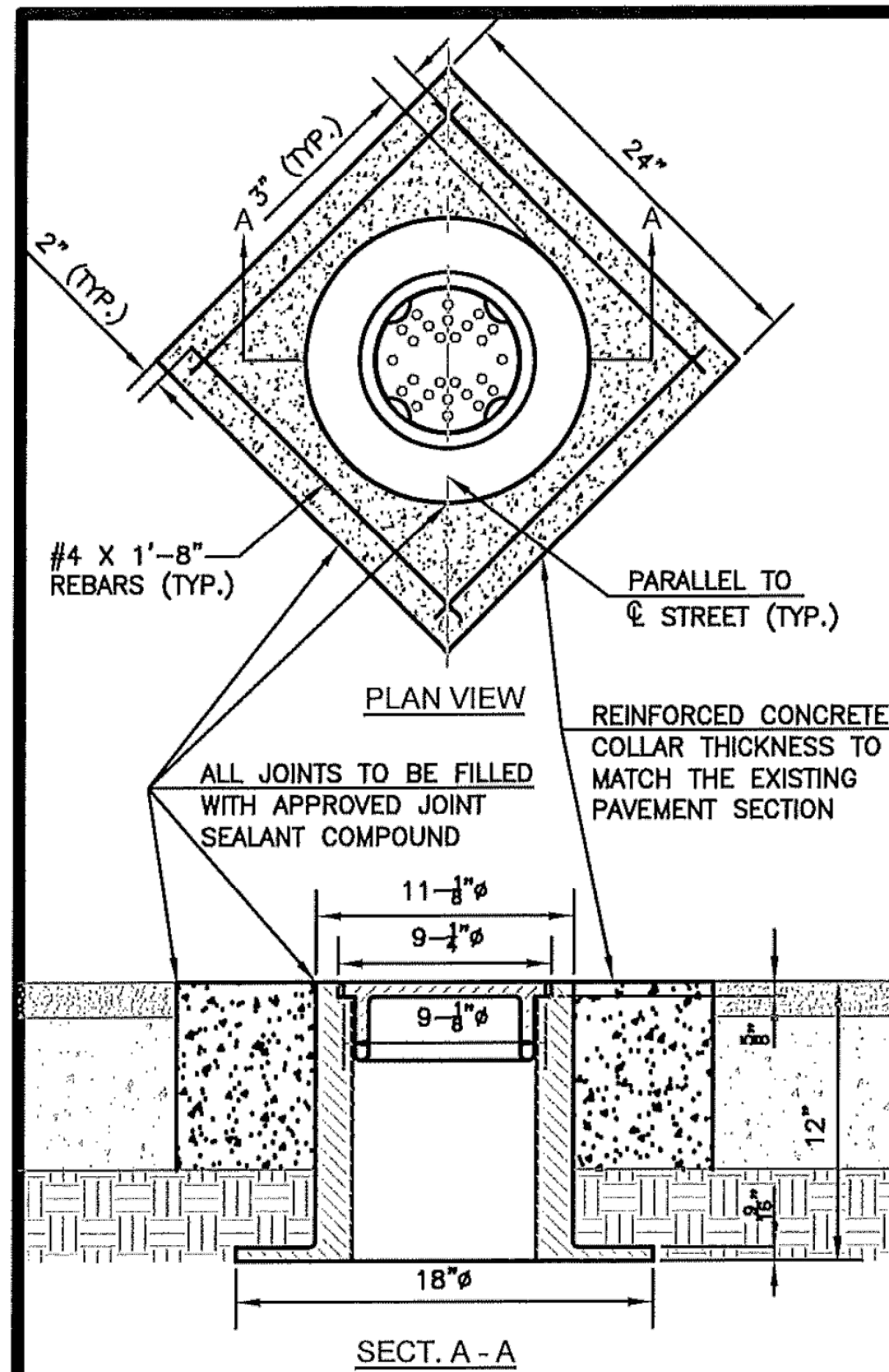
DRAWN BY: *rm/mc*  
APP'D BY: *FL*



**SHAWNEE COUNTY, KANSAS**  
**PUBLIC WORKS DEPARTMENT**  
1515 NW SALINE  
TOPEKA, KS 66618  
(785) 233-7702



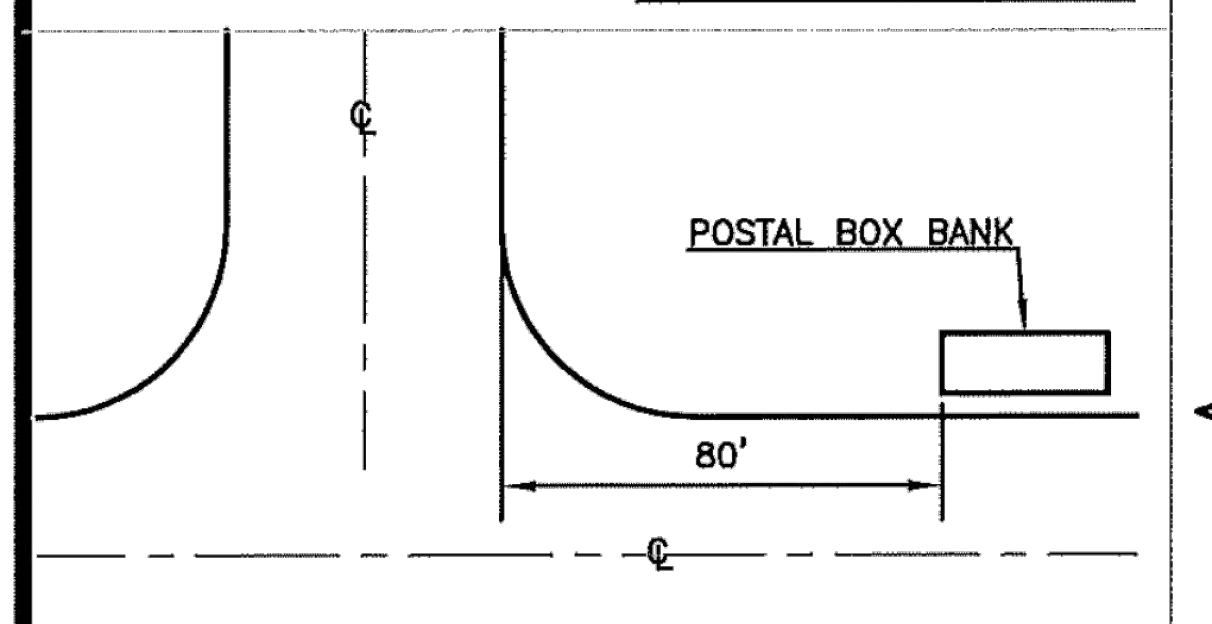
620 SE MADISON St. • 2nd Floor • TOPEKA, KS 66607  
Phone: (785) 368-3842 • Fax: (785) 368-3881



**NOTES:**

1. THE TOP OF THE MONUMENTATION WITHIN THE MONUMENT BOX WILL BE BELOW THE BOTTOM OF THE MONUMENT BOX AND PAVEMENT ELEVATION TO ACCOMMODATE FREE PAVEMENT MOVEMENT WITHOUT DISPLACEMENT OF THE MONUMENT. ALL MONUMENTS IN CONCRETE WILL BE PLACED IN SUCH A WAY THAT THE TOP OF CONCRETE IS A MINIMUM OF 3" CLEAR OF THE BOTTOM OF THE MONUMENT BOX AND PAVEMENT, TO ALLOW DRAINAGE PERCOLATION OF SURFACE SEEPAGE AWAY FROM THE BOX.
2. ALTERNATE INSTALLATION: 24" DIAMETER CORE DRILL CENTERED AROUND THE MONUMENT WITH #4 REBAR HOOPS MAINTAINING A 3" CLEARANCE FROM MONUMENT AND EDGE OF CONCRETE COLLAR.
3. CLAY AND BAILEY MFG. CO. COVER NO. 02193-01-1052 RING NO. 02193-01-2050 COMBINED WEIGHT 95 LBS.

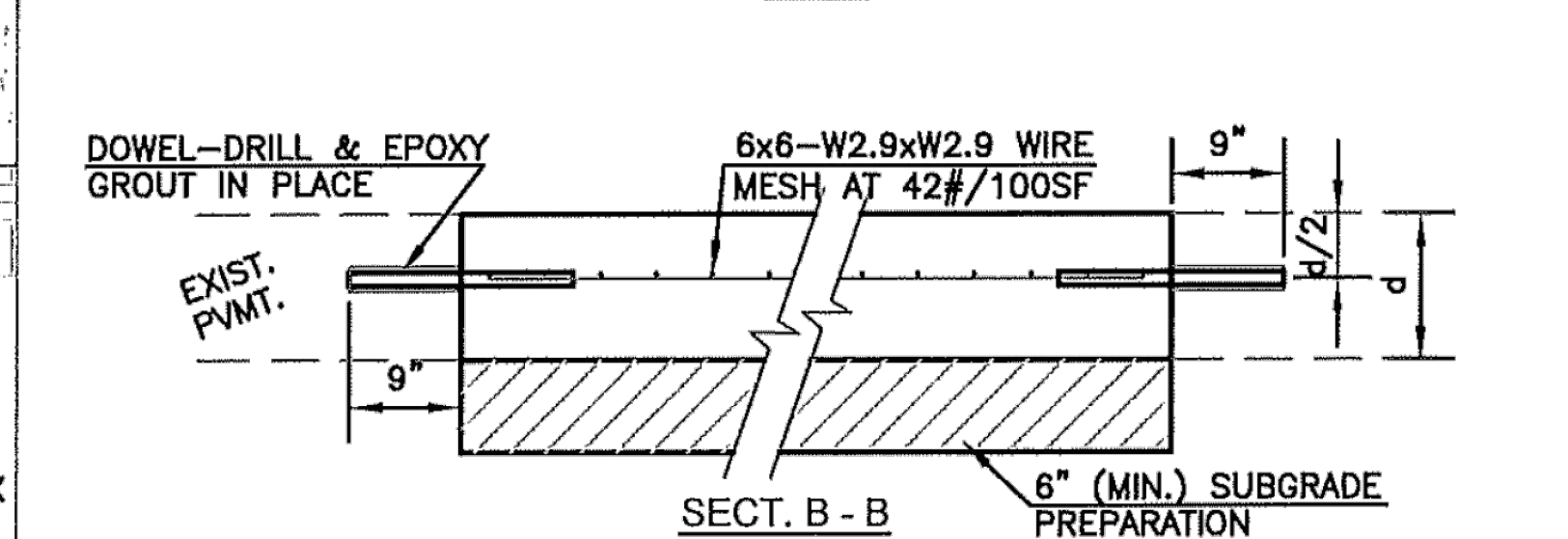
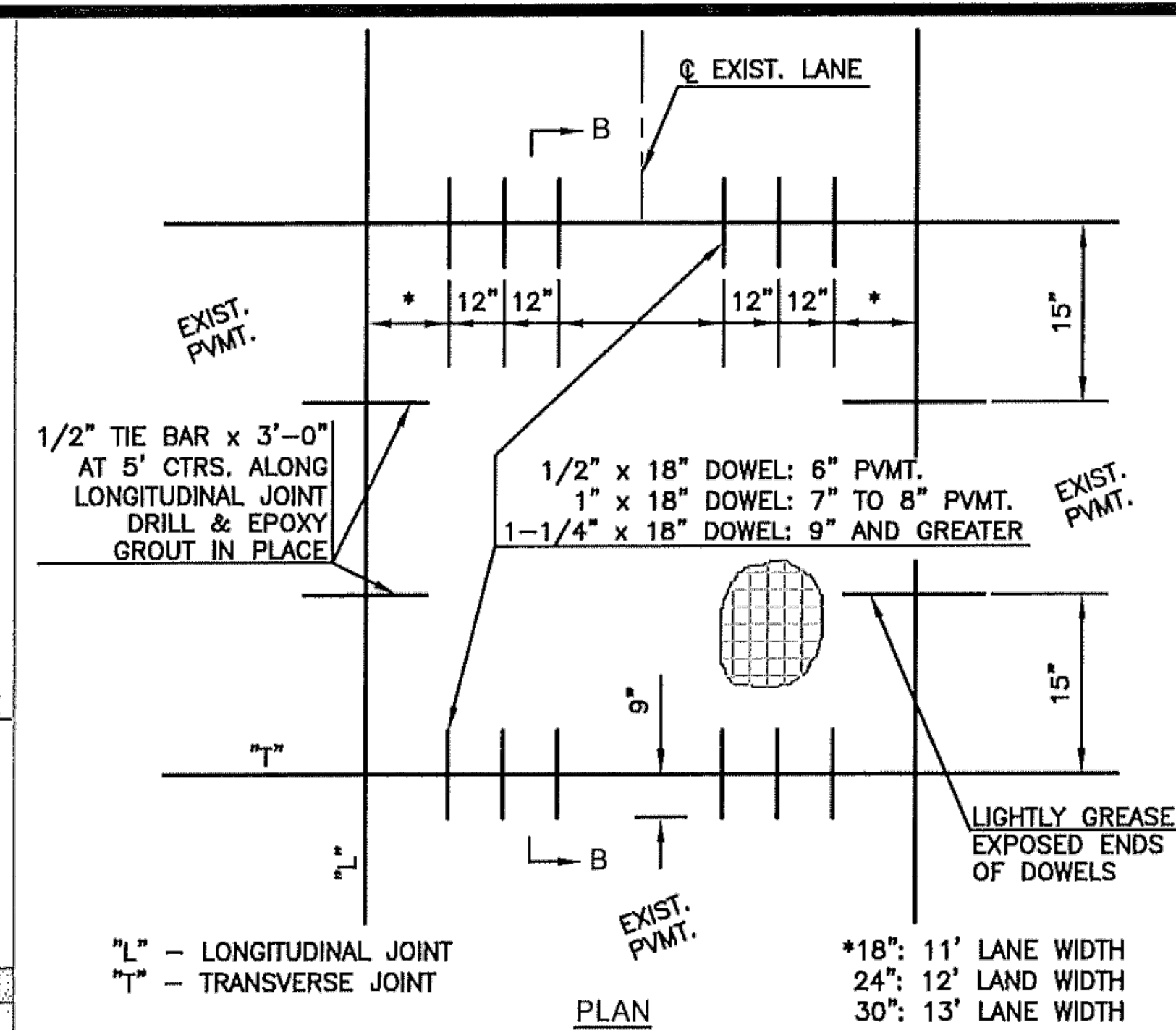
**CAST IRON MONUMENT BOX**



**NOTE:** WHERE BANKS OR GROUPS OF POSTAL BANKS ARE TO BE INSTALLED, THEY SHALL BE A MINIMUM OF EIGHTY (80) FEET FROM THE INTERSECTION BACK OF CURB.

**POSTAL BOX BANKS**

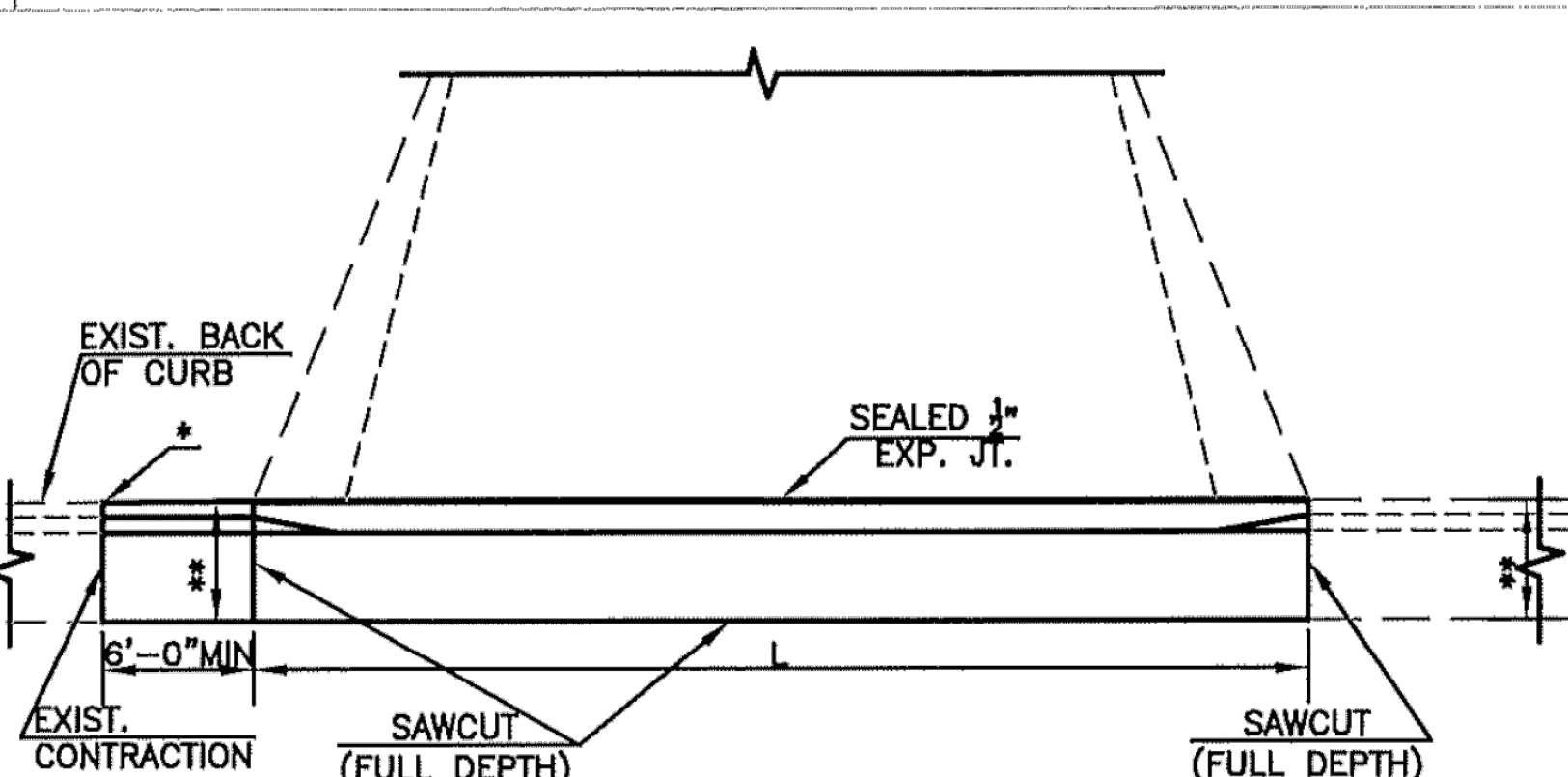
NO.	DATE	REVISION	BY	APP'D
8	Oct. 2020	Updated cast iron monument box	JOT	BDF
7	Oct. 2017	Updated cast iron monument box	DHS	JPS
6	March 2013	Added grease to dowels & bar size to "	DHS	SB
5	Jan. 2013	Added Manhole Adjustment detail	DHS	SB
4	Jan. 2013	Removed Brick S/W & Stone Curb details	DHS	SB
3	Dec. 2012	Changed to tie bar from dowel	DHS	SB
2	Dec. 2009	Dowel size & # pvmt range and curb det.	DHS	SB
1				



**NOTES:**

1. ALL MATERIAL AND METHODS SHALL BE IN ACCORDANCE WITH CITY OF TOPEKA STANDARD TECHNICAL SPECIFICATIONS, LATEST EDITION.
2. DOWEL HOLE SIZE = O.D. OF DOWEL + 1/8".
3. EPOXY GROUTING PER SEC. 830, KDOT STANDARD SPECIFICATIONS FOR STATE ROAD & BRIDGE CONSTRUCTION, LATEST EDITION.

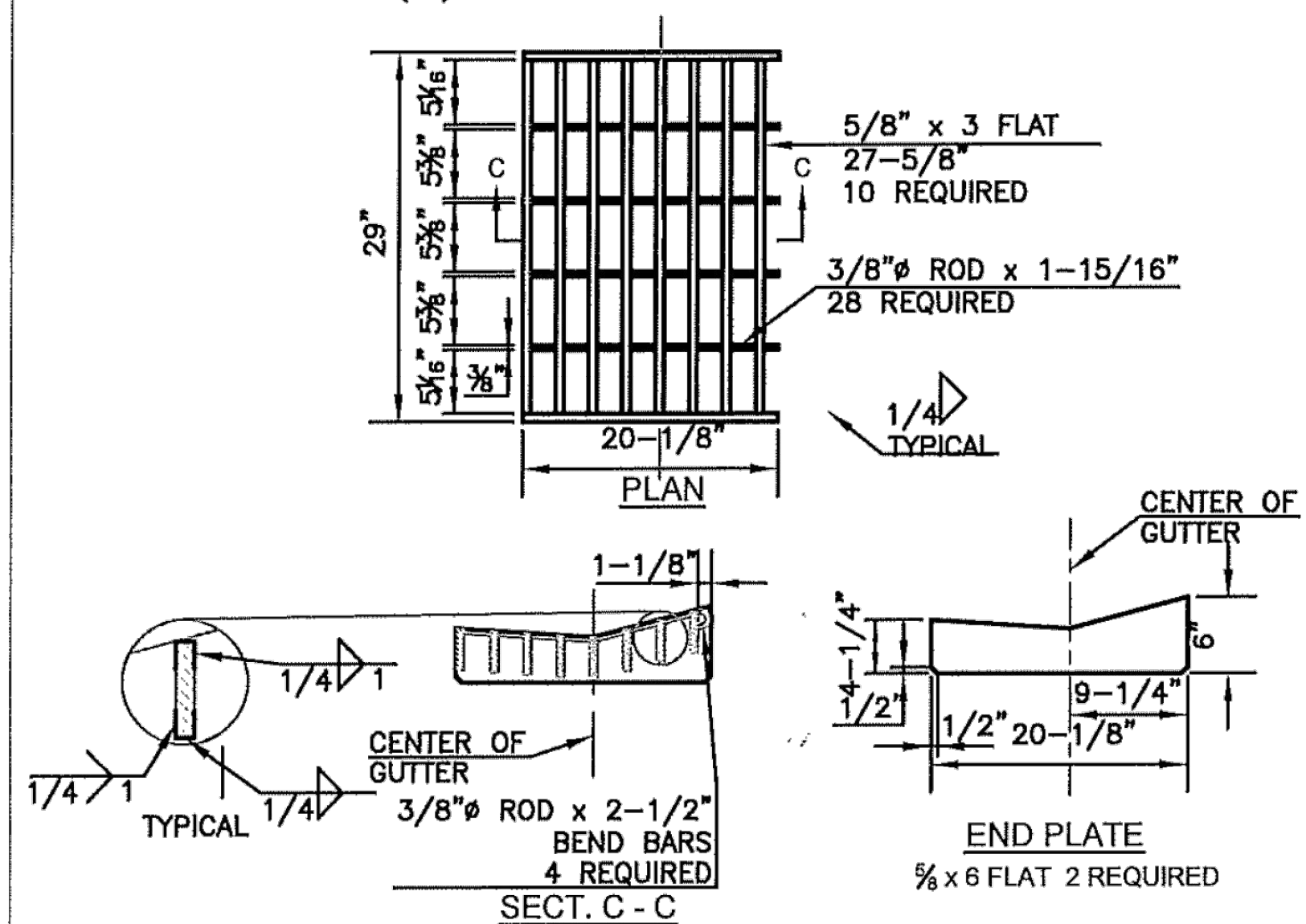
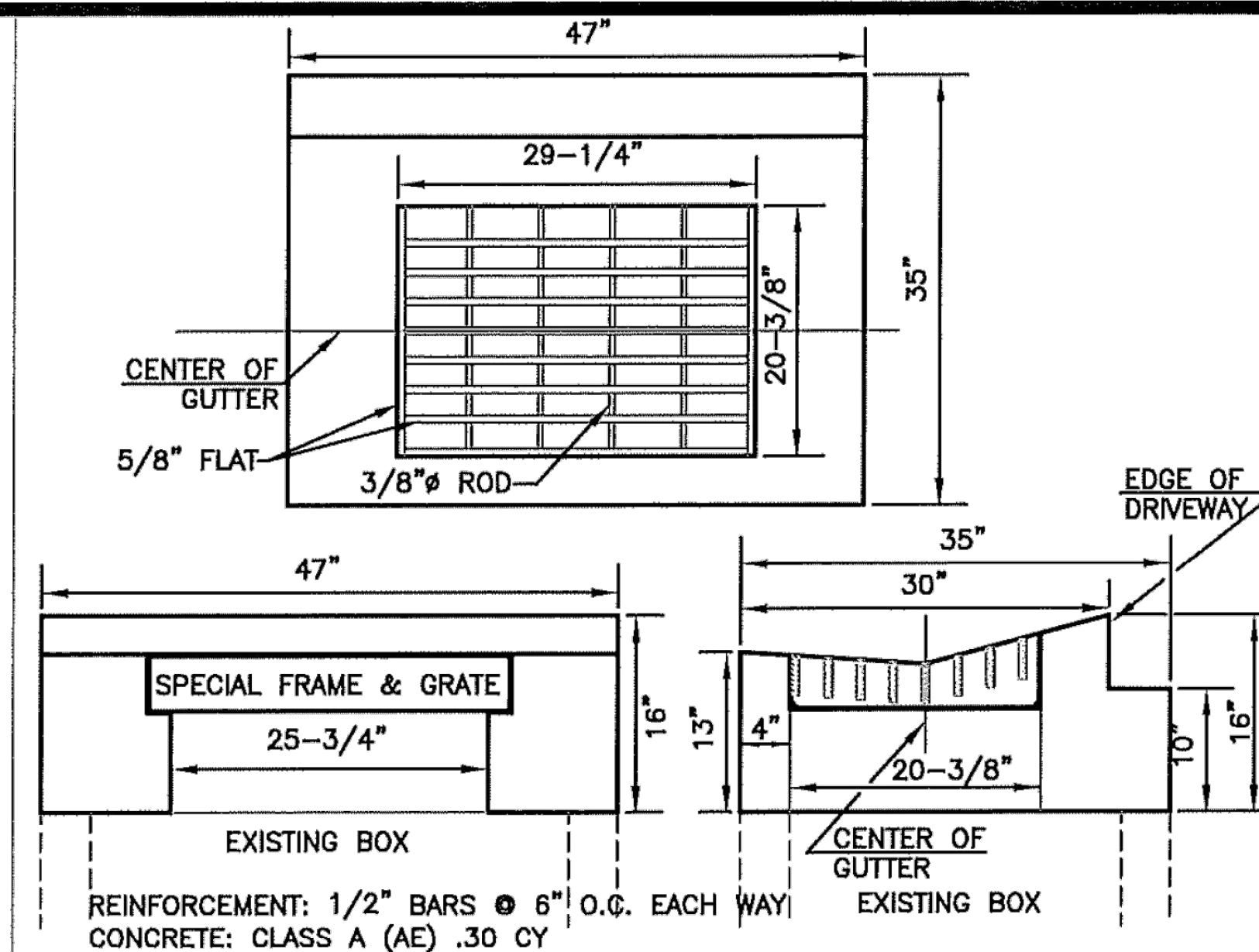
**FULL PANEL REPAIR & UTILITY CUTS FOR CONCRETE PAVEMENT**



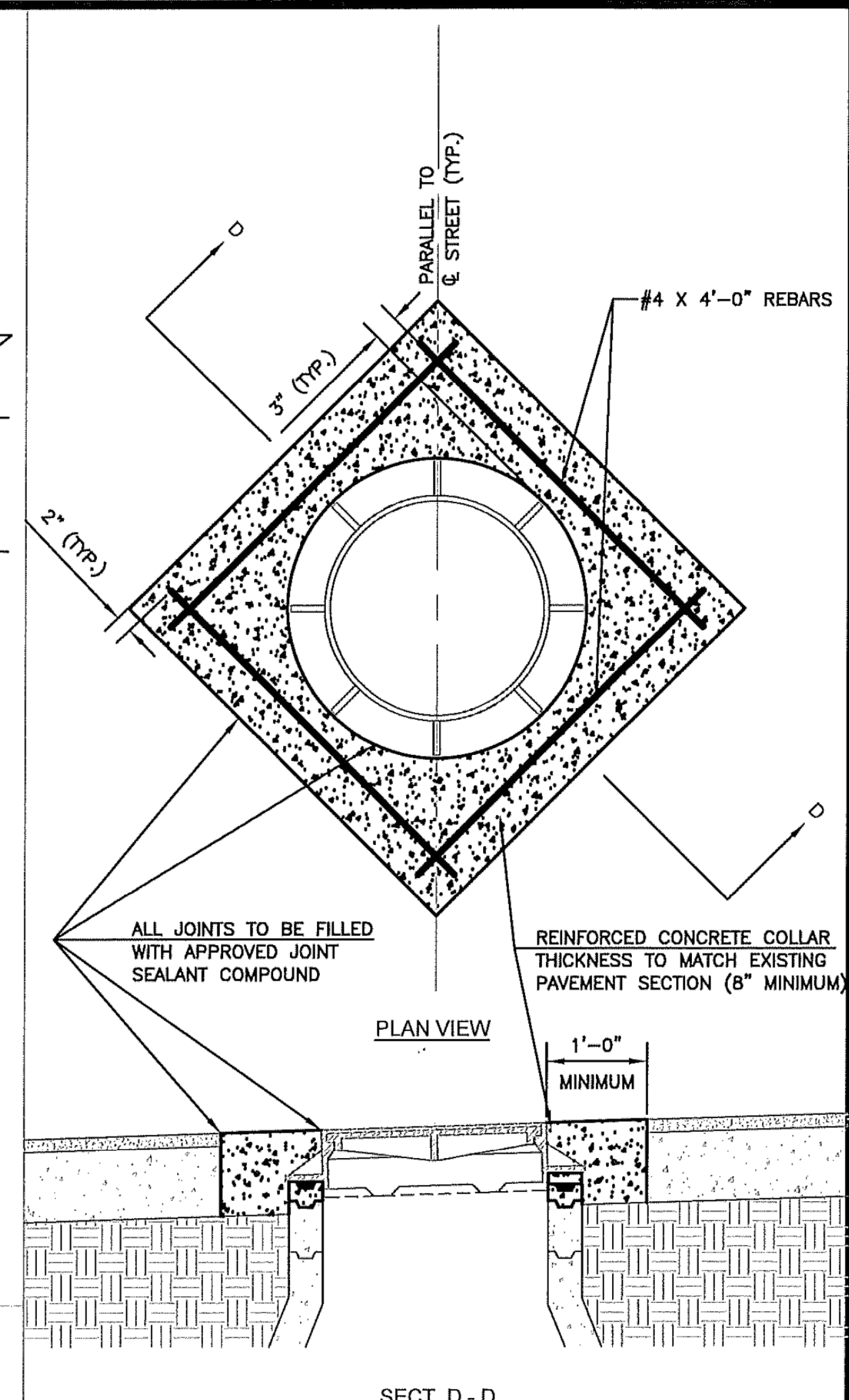
\*\* MATCH EXISTING CURB WIDTH.

**CURB CUT/REMOVAL FOR NEW RESIDENTIAL DRIVE APPROACH**

\* IF CURB AND GUTTER TO BE REMOVED IS WITHIN 6'-0" OF AN EXISTING JOINT, REMOVE CURB AND GUTTER BACK TO EXISTING JOINT.  
L - PER CITY STANDARD DESIGN CRITERIA.



**SPECIAL II-P GRATE TOP**



**NOTES:**

1. PAVEMENT SHALL BE REMOVED BY FULL DEPTH SAW CUTTING WHILE PROTECTING NEW PAVEMENT.
2. THE ORIENTATION OF THE REINFORCED CONCRETE COLLAR SHALL BE AS SHOWN OR FIELD DETERMINED BY ENGINEER.
3. ADJUST MANHOLE RING TO MATCH PAVEMENT CROSS SLOPE USING APPROVED CONCRETE MANHOLE GRADE ADJUSTMENT RINGS AND CONCRETE BLOCKS OR APPROVED HIGH-DENSITY POLYETHYLENE MANHOLE ADJUSTMENT RINGS.
4. SET MANHOLE RING WITH 2 RINGS OF 3/4" PREFORMED MASTIC SEALANT.
5. ALL TIME AND MATERIAL NECESSARY TO PERFORM THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO THE BID ITEM "MANHOLE ADJUSTMENT".

**MANHOLE ADJUSTMENT**

DRAWN BY: *jl/m*  
APP'D BY: *3D*



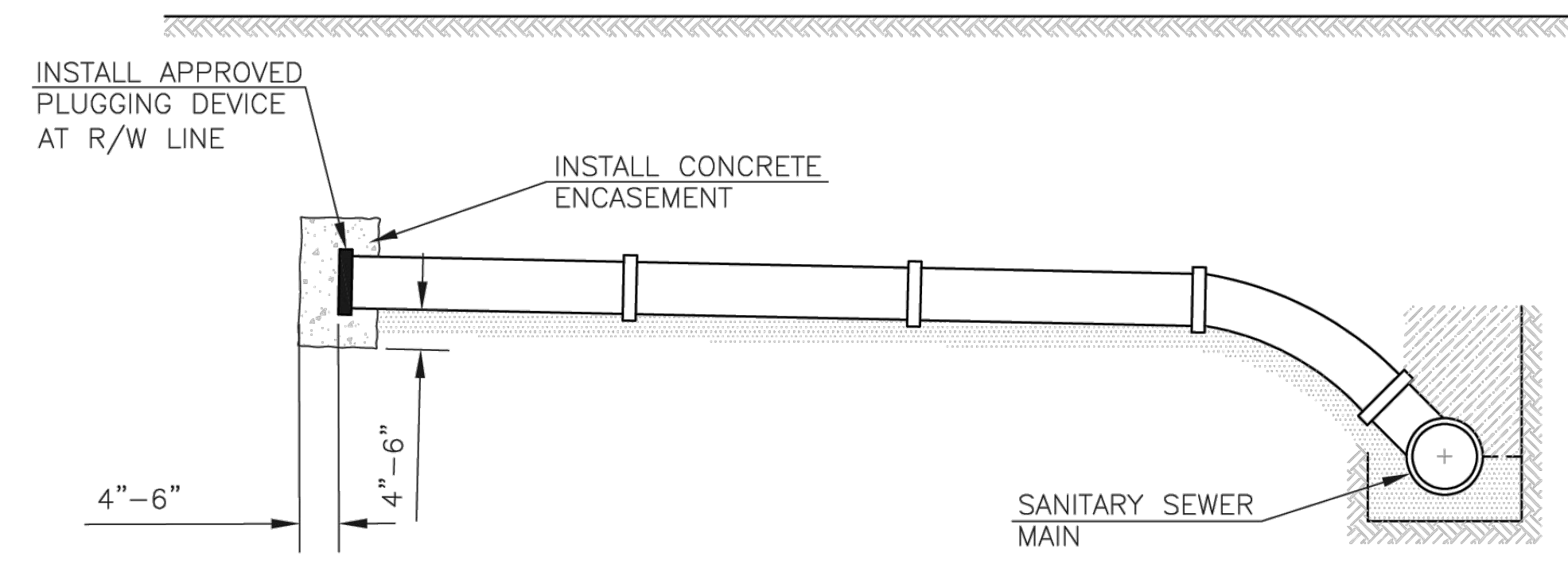
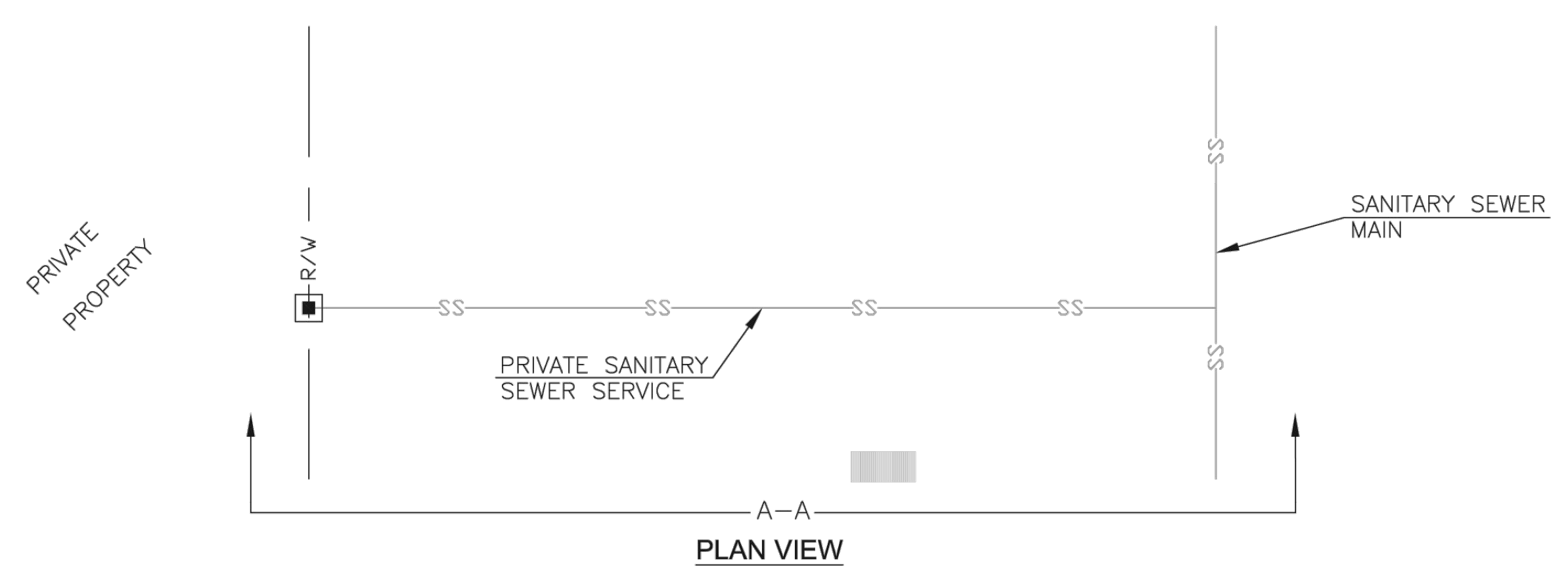
**SHAWNEE COUNTY, KANSAS  
PUBLIC WORKS DEPARTMENT**  
1515 NW SALINE  
TOPEKA, KS 66616  
(785) 233-7702



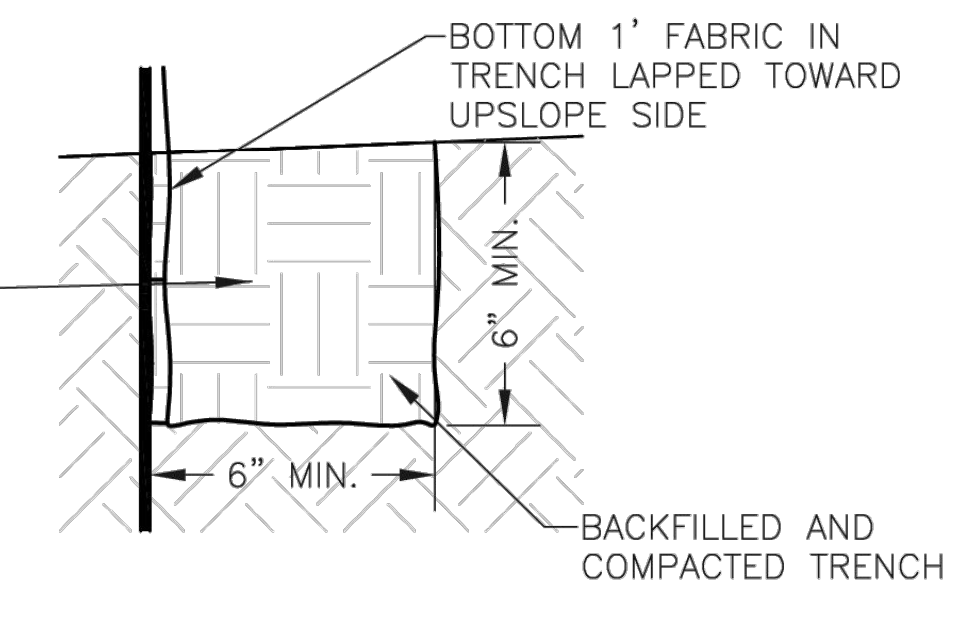
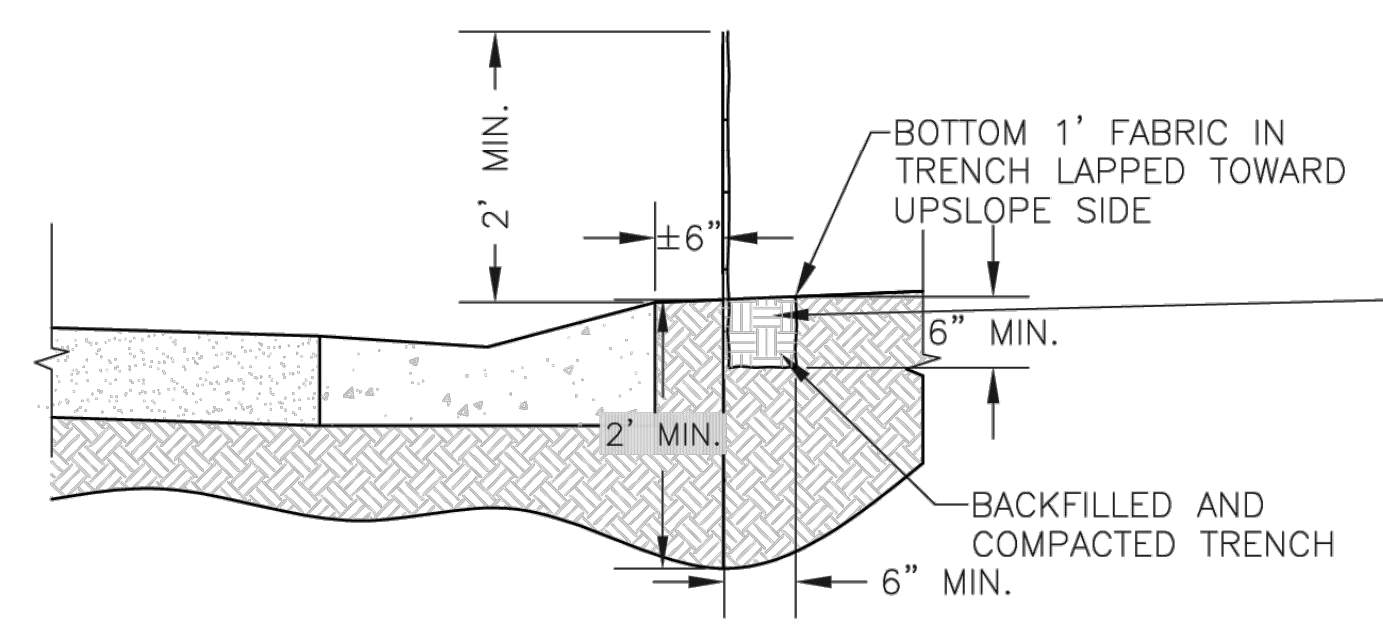
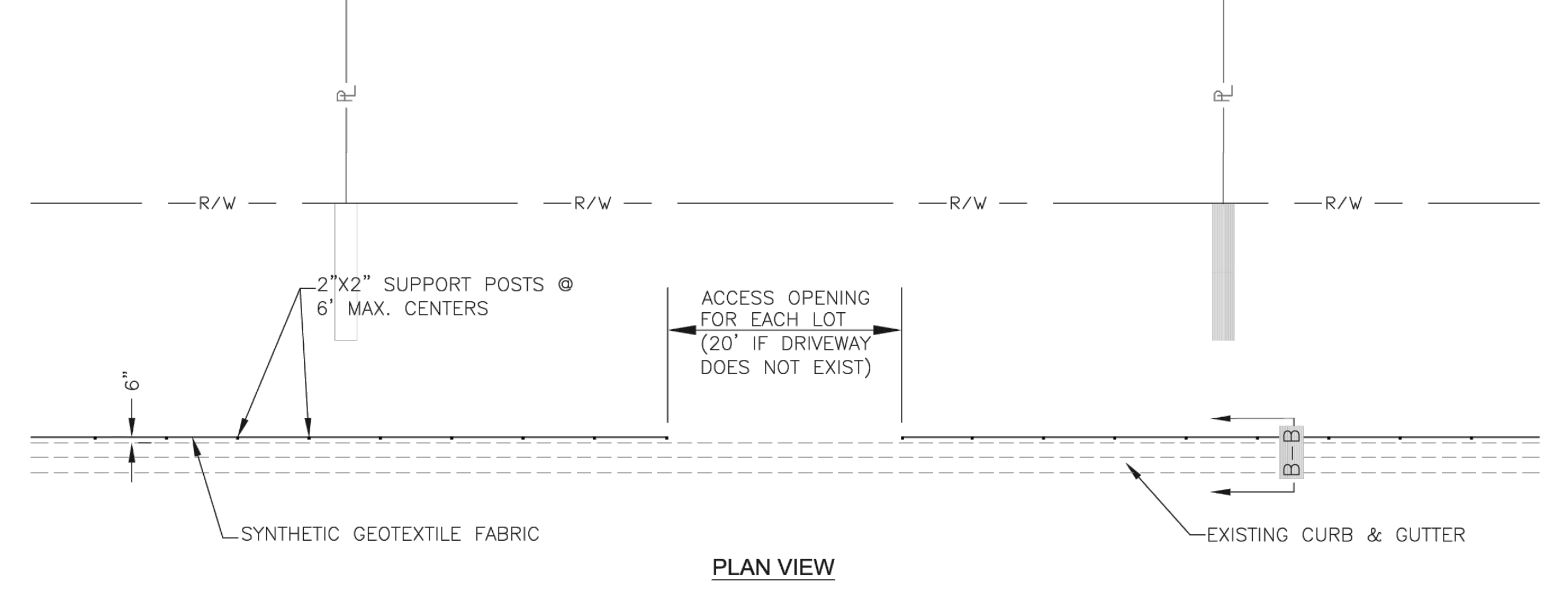
**STANDARD DETAILS**

**MISCELLANEOUS  
DETAILS I**  
(DT-017)

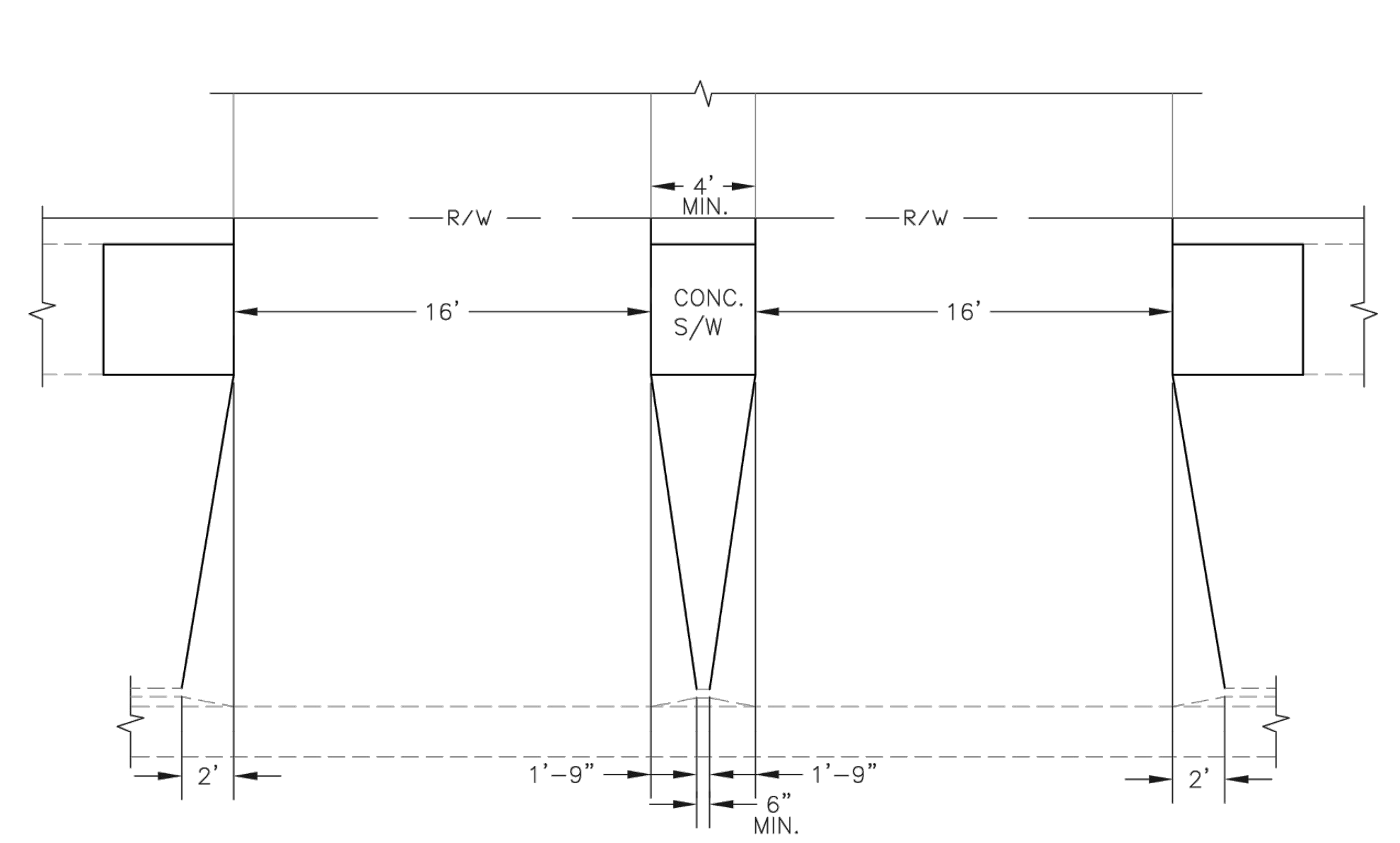
DATE: APR 2026  
SHEET: 54 OF 122  
PROJ.: 701038.00



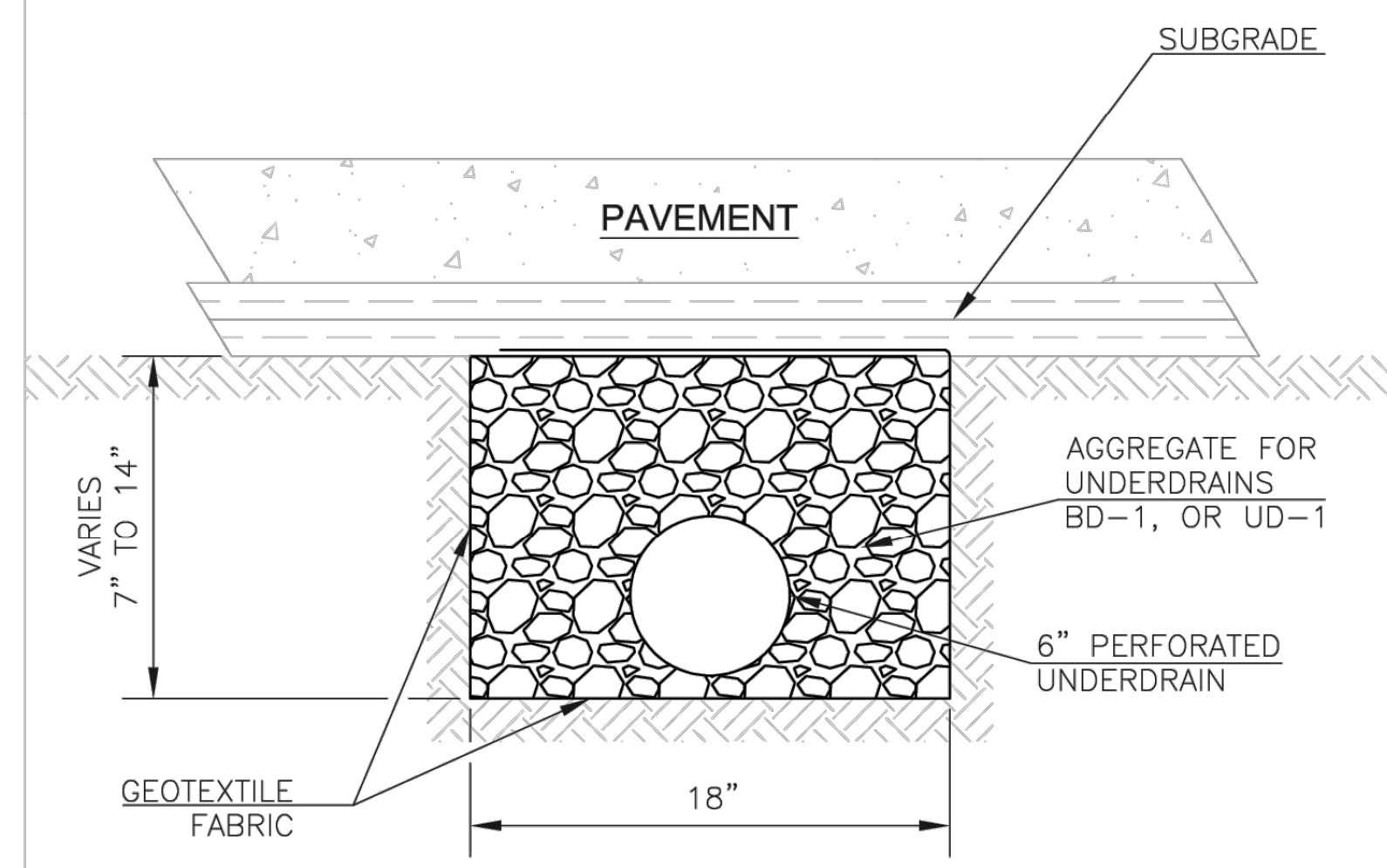
SECTION A-A  
**SANITARY SEWER SERVICE CAP**



SECTION B-B  
**EROSION CONTROL FENCE INSTALLATION FOR NEW DEVELOPMENTS**

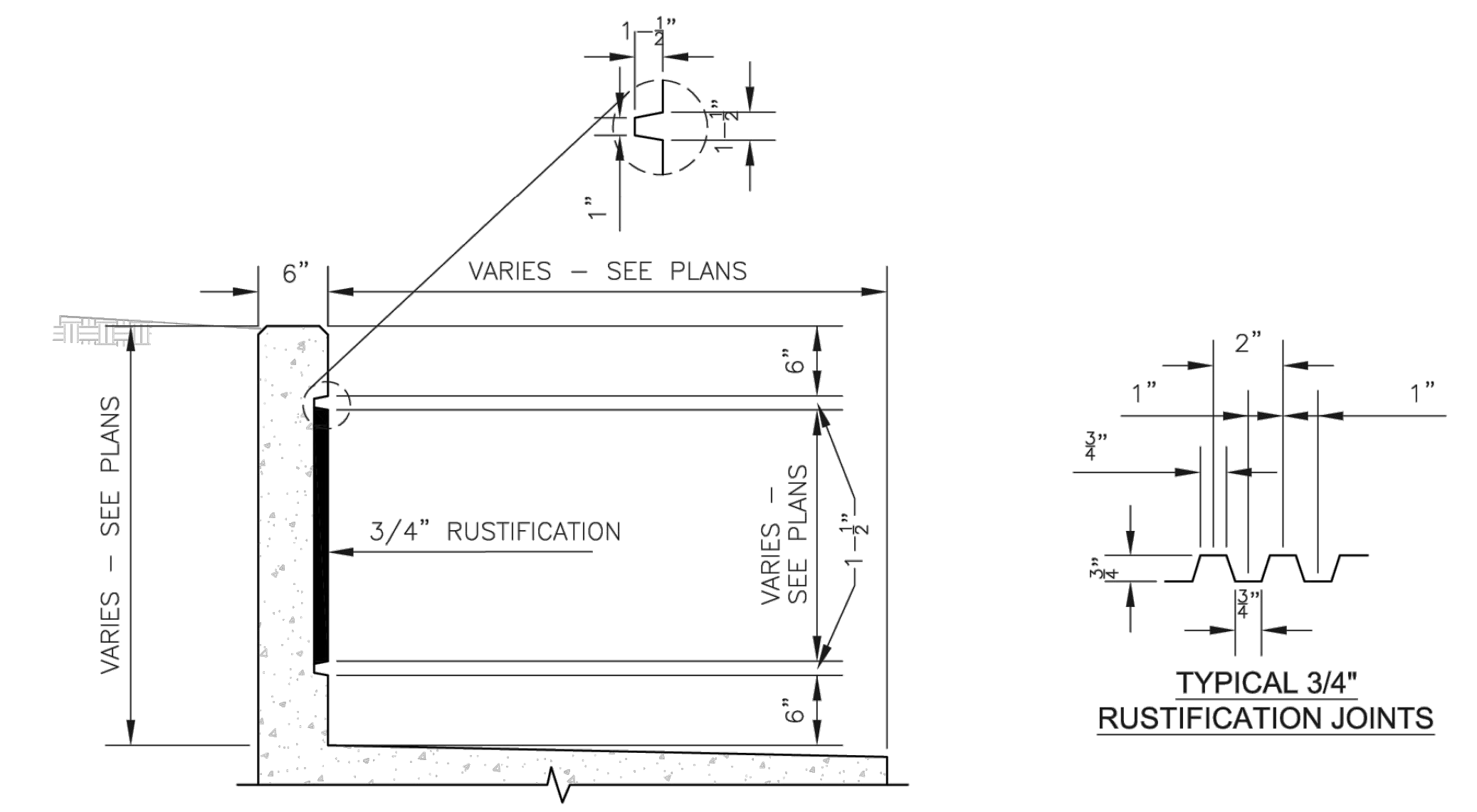


**DRIVE APPROACHES FOR DUPLEXES WITH ADJACENT GARAGES**



- NOTES:
1. ALL PIPE SHALL BE LAID ON A MINIMUM GRADE OF 1% UNLESS OTHERWISE NOTED.
  2. MATERIALS AND INSTALLATION OF UNDERDRAINS SHALL BE CONSISTENT WITH THE COT & SHAWNEE COUNTY STANDARD TECHNICAL SPECIFICATIONS.
  3. GEOTEXTILE FABRIC MUST BE OVERLAID ONTO UNDERDRAIN AGGREGATE TO PREVENT SOIL MIGRATION AND MAINTAIN LONG-TERM EFFECTIVENESS.

**TYPICAL UNDERDRAIN SECTION**



- NOTES:
1. RUSTIFICATION JOINT PROFILE IS BASED ON GREENSTREAK UNI-CAST RIBBED 30 FORM LINER (4'-0" SHEET WIDTH). THE CONTRACTOR HAS THE OPTION OF USING FORM OR APPROVED EQUAL. ALL FORM LINERS SHALL BE FULL HEIGHT OF WALL WITHOUT SPLICES.
  2. WALL SHALL BE DESIGNED BY ENGINEER AND SHOWN ON PLANS.

**RETAINING WALL RUSTIFICATION**

NO.	DATE:	REVISION	BY:	APP'D
3	Oct. 2020	Added Typical Underdrain detail	JOT	MS
2	Dec. 2012	Added plan view to San Swr Serv Cap	DHS	SB
1	Dec. 2009	Added Erosion Control Installation detail	DHS	SB

DRAWN BY: JOT  
APP'D BY: MS



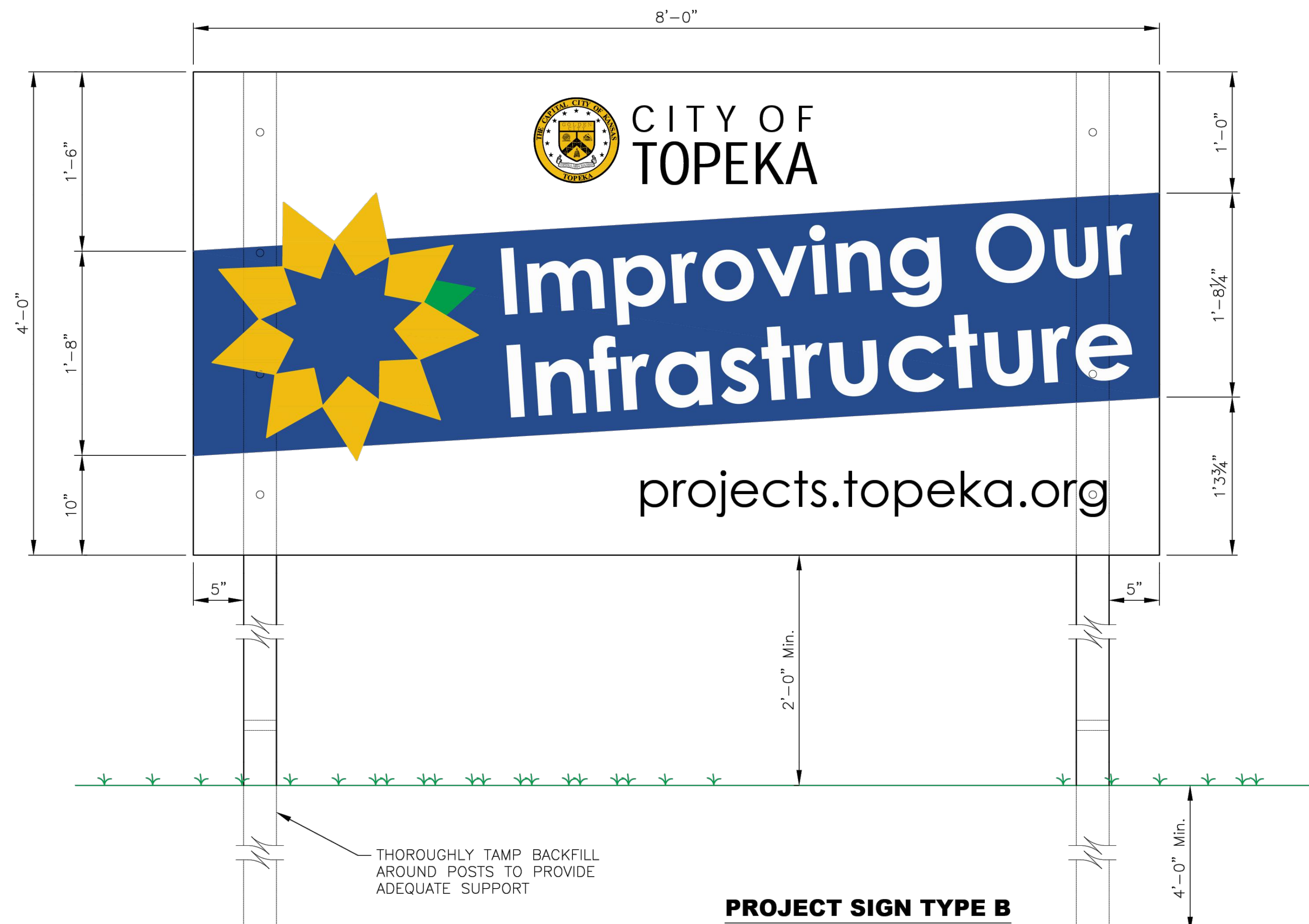
**SHAWNEE COUNTY, KANSAS**  
**PUBLIC WORKS DEPARTMENT**  
1515 NW SALINE  
TOPEKA, KS 66618  
(785) 233-7702



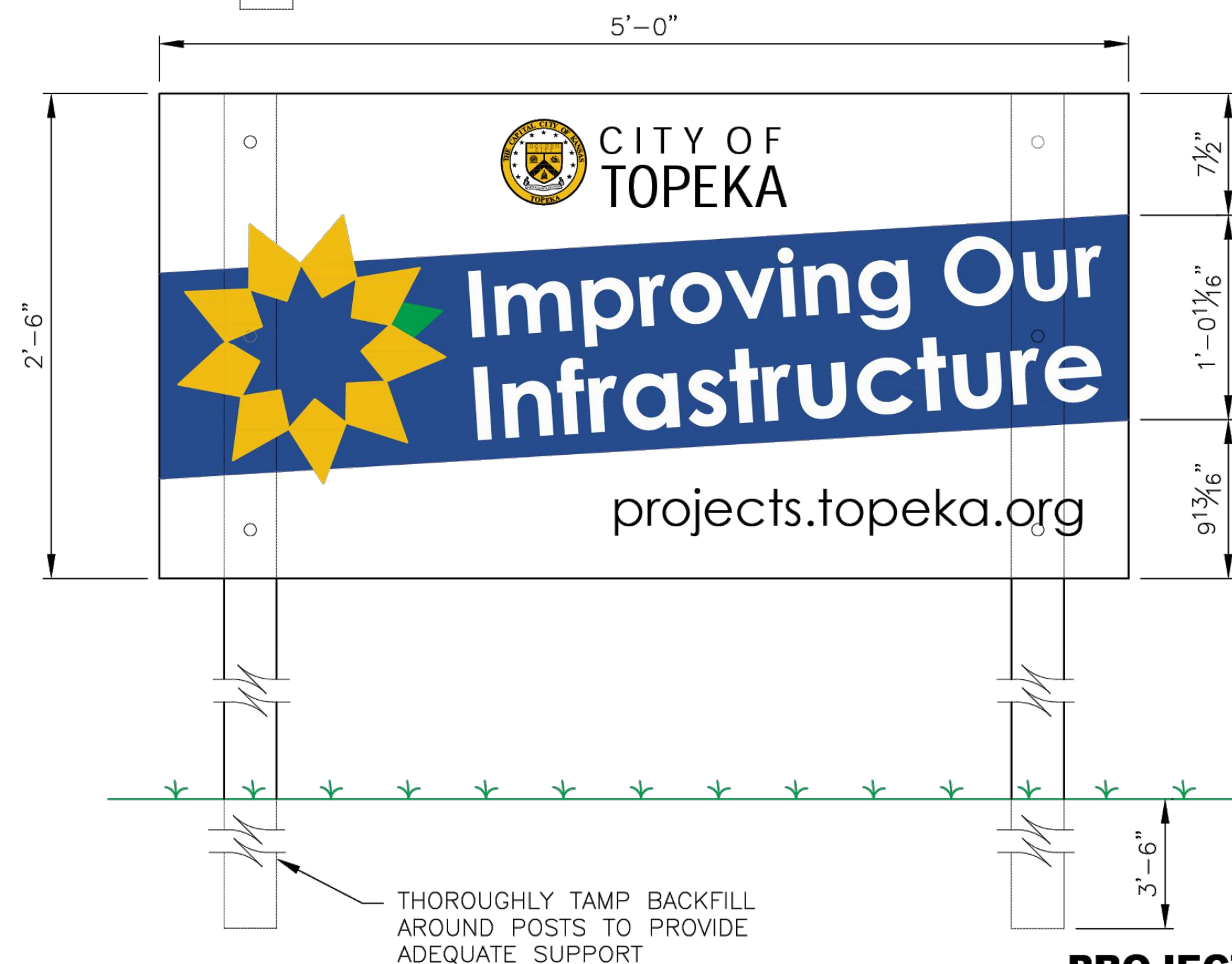
**STANDARD DETAILS**

**MISCELLANEOUS DETAILS II**  
(DT-018)

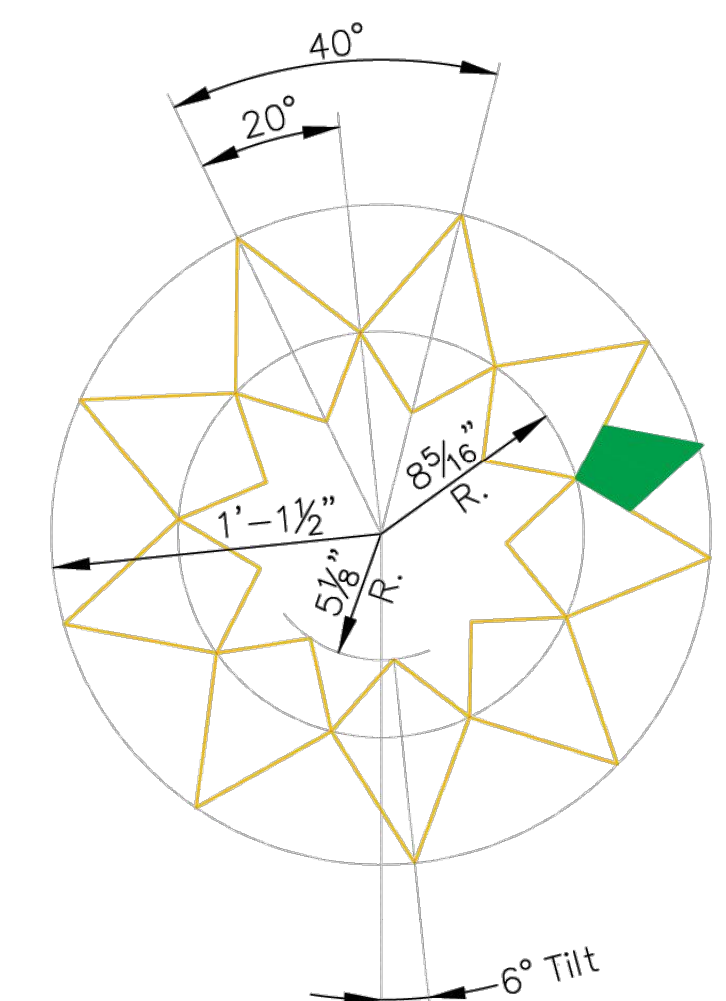
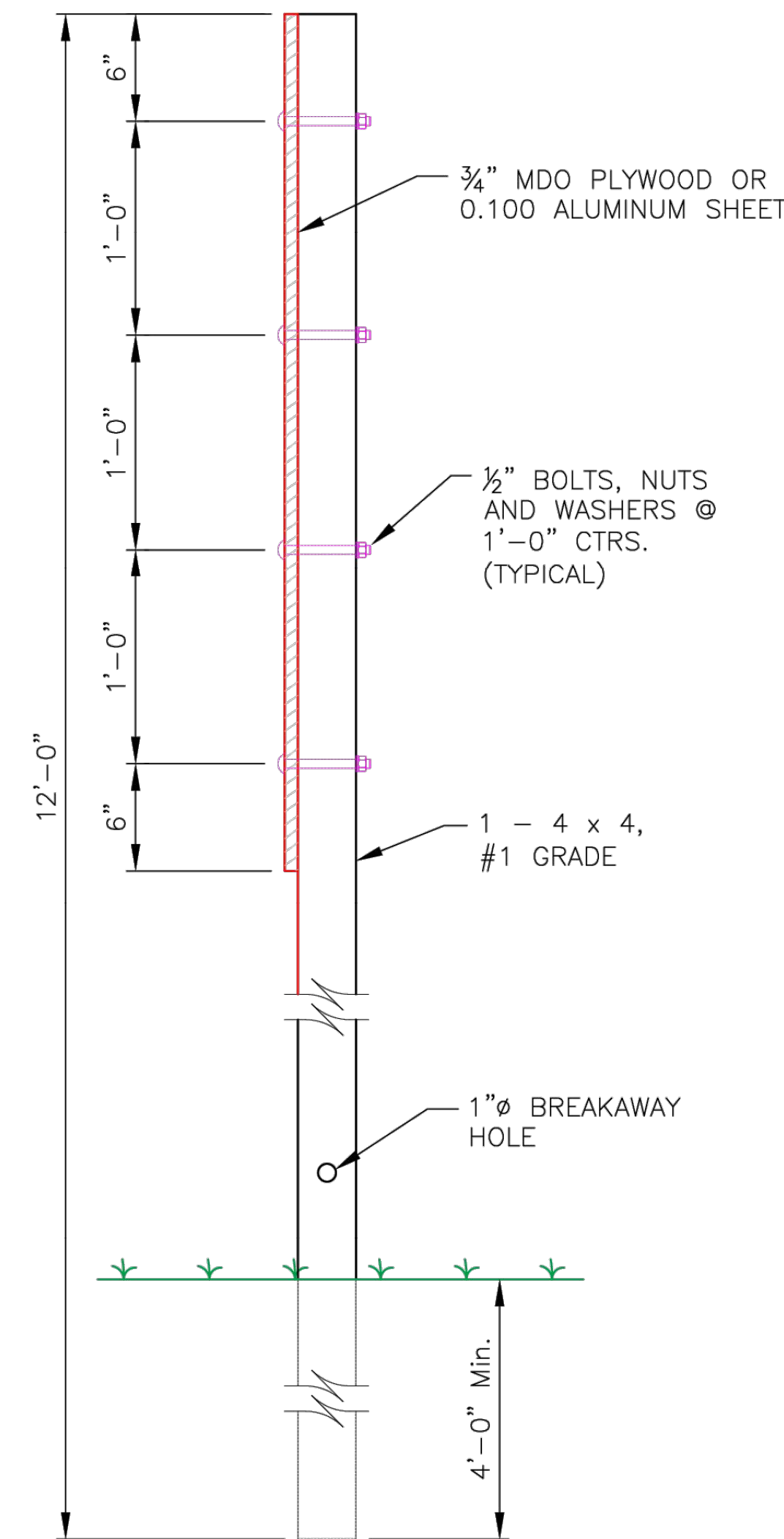
DATE: APR 2026  
SHEET: 55 OF 122  
PROJ.: 701038.00



**PROJECT SIGN TYPE B**



**PROJECT SIGN TYPE A**



**CITY FLAG ROSETTE**  
(SHOWN FOR 8'-0" SIGN)

- NOTES:
- LETTERING FOR 8'-0" WIDE SIGN SHALL USE THE FOLLOWING FONTS:  
 CITY OF - BASIC SANS SF - BLACK (2 5/8")  
 TOPEKA - BASIC SANS HEAVY SF - BLACK (4 3/16")  
 Improving Our - CENTURY GOTHIC BOLD - WHITE (6 5/16")  
 Infrastructure - CENTURY GOTHIC BOLD - WHITE (7 3/16")  
 projects.topeka.org - CENTURY GOTHIC - BLACK (3 1/2")
  - LETTERING FOR 5'-0" WIDE SIGN SHALL USE THE FOLLOWING FONTS:  
 CITY OF - BASIC SANS SF - BLACK (1 5/8")  
 TOPEKA - BASIC SANS HEAVY SF - BLACK (2 5/8")  
 Improving Our - CENTURY GOTHIC BOLD - WHITE (4 3/8")  
 Infrastructure - CENTURY GOTHIC BOLD - WHITE (4 1/2")  
 projects.topeka.org - CENTURY GOTHIC - BLACK (2 3/16")
  - LETTERING SHALL BE VINYL COMPUTER CUT SCOTCHCAL OR APPROVED EQUAL IN THE COLORS LISTED ABOVE. CITY LOGO SYMBOL SHALL BE BLACK ON GOLD (RGB 240,189,18). BACKGROUND STRIPE SHALL BE NAVY BLUE (RGB 38,76,142). CITY FLAG ROSETTE SHALL BE GOLD (RGB 240,189,18) MATCHING THE GOLD USED IN THE CITY OF TOPEKA LOGO, AND GREEN (RGB 0,158,75)
  - RGB VALUES ARE APPROXIMATE. VARIATIONS FROM THE LISTED RGB VALUES MUST BE REQUESTED FOR APPROVAL.
  - ONE SIDE OF SIGN ONLY.
  - WOOD SIGN AND POSTS SHALL BE PAINTED WITH TWO (2) COAT EXTERIOR WHITE PRIMER AND ONE (1) COAT EXTERIOR WHITE SEMI-GLOSS FINISH.
  - ALTERNATIVE TO WOOD PANEL, CONTRACTOR MAY USE 3MM MIN. ALUMINUM COMPOSITE MATERIAL (ACM), REINFORCED ON THE BACK SIDE WITH 2X4 PRESSURE TREATED AND PAINTED STRINGERS TO PREVENT SAG OR BOW. FOR ACM PANELS, DIGITALLY PRINTED GRAPHICS ARE ALLOWED, AND SHALL REQUIRE A UV OVER-LAMINATE.
  - LOCATION OF PROJECT SIGN TO BE DETERMINED BY THE CITY ENGINEER.
  - SIGN SHALL BE ERECTED PRIOR TO ANY CONSTRUCTION ACTIVITY, AND MAINTAINED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION. SIGN SHALL BE REMOVED UPON PROJECT COMPLETION.
  - PROJECT SIGNAGE NOT REQUIRED ON PROJECTS TO BE CONSTRUCTED OUTSIDE THE CITY LIMITS UNLESS SPECIFIED BY THE COUNTY ENGINEER.
  - IF METAL POSTS ARE USED INSTEAD OF WOOD POSTS, THEY MUST BE BREAKAWAY POSTS AS SHOWN ON CoT TRAFFIC ENGINEERING'S DT-112.
  - NOTE FOR AUTOCAD: SET MERGE CONTROL TO "LINES OVERWRITE", PLOT IN TRUE COLOR PEN TABLES.
  - PDF and AUTOCAD files can be found at:  
<https://www.topeka.org/engineering/design-right-of-way/>

NO.	DATE:	REVISION	BY:	APP'D
4	March 2022	ALL NEW SIGN TEXT - 2022	MJM LH	
3	March 2013	Added breakaway metal post, sign & ht.	DHS SB	
2	Dec. 2009	All new sign text	DHS SB	
1	Jan. 2007	Changed Logo	DHS SB	

DRAWN BY: *rm/mc*  
 APP'D BY: *R. Chmely*



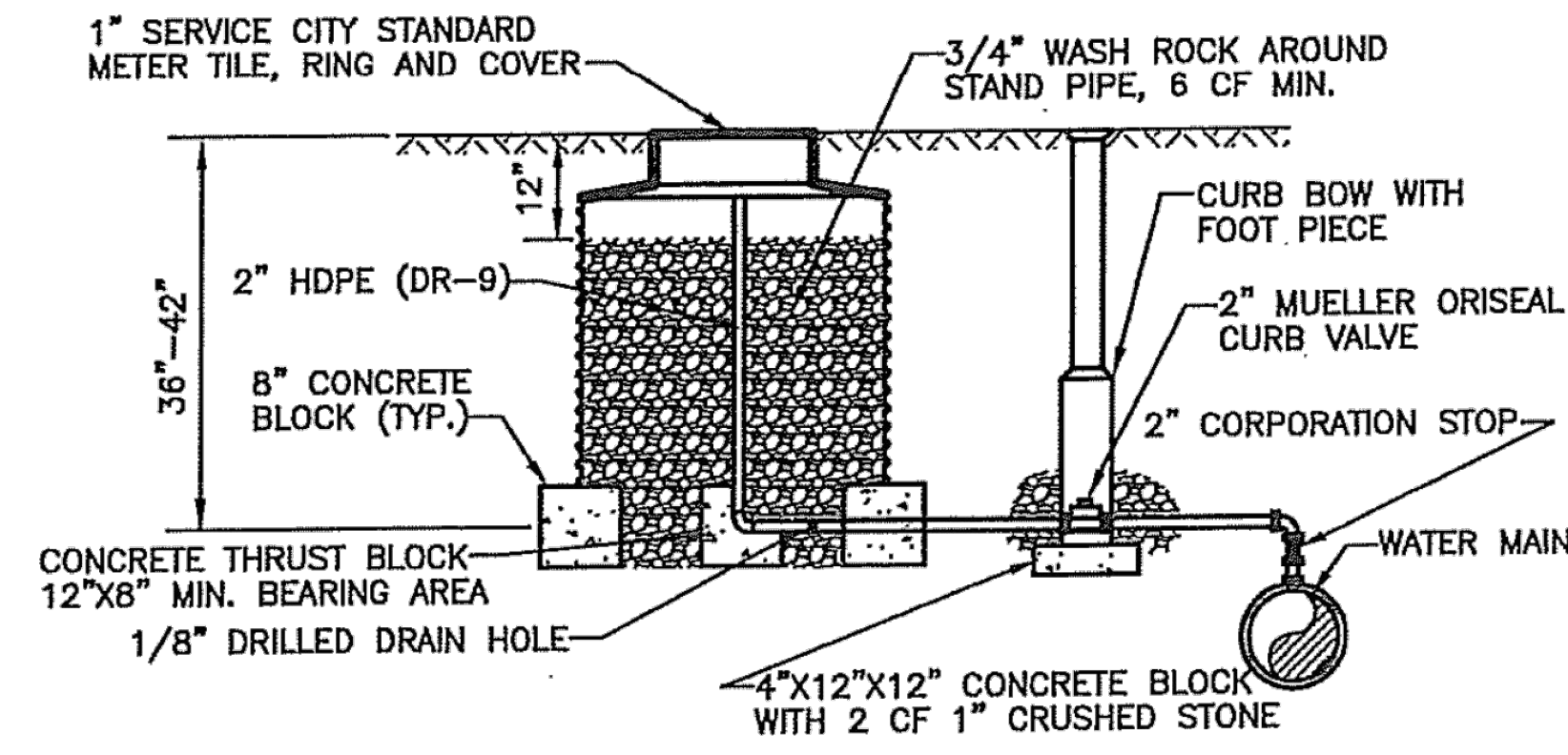
**SHAWNEE COUNTY, KANSAS**  
 PUBLIC WORKS DEPARTMENT  
 COUNTY ENGINEER  
 1515 NW SALINE  
 TOPEKA, KS 66618  
 (785) 233-7702



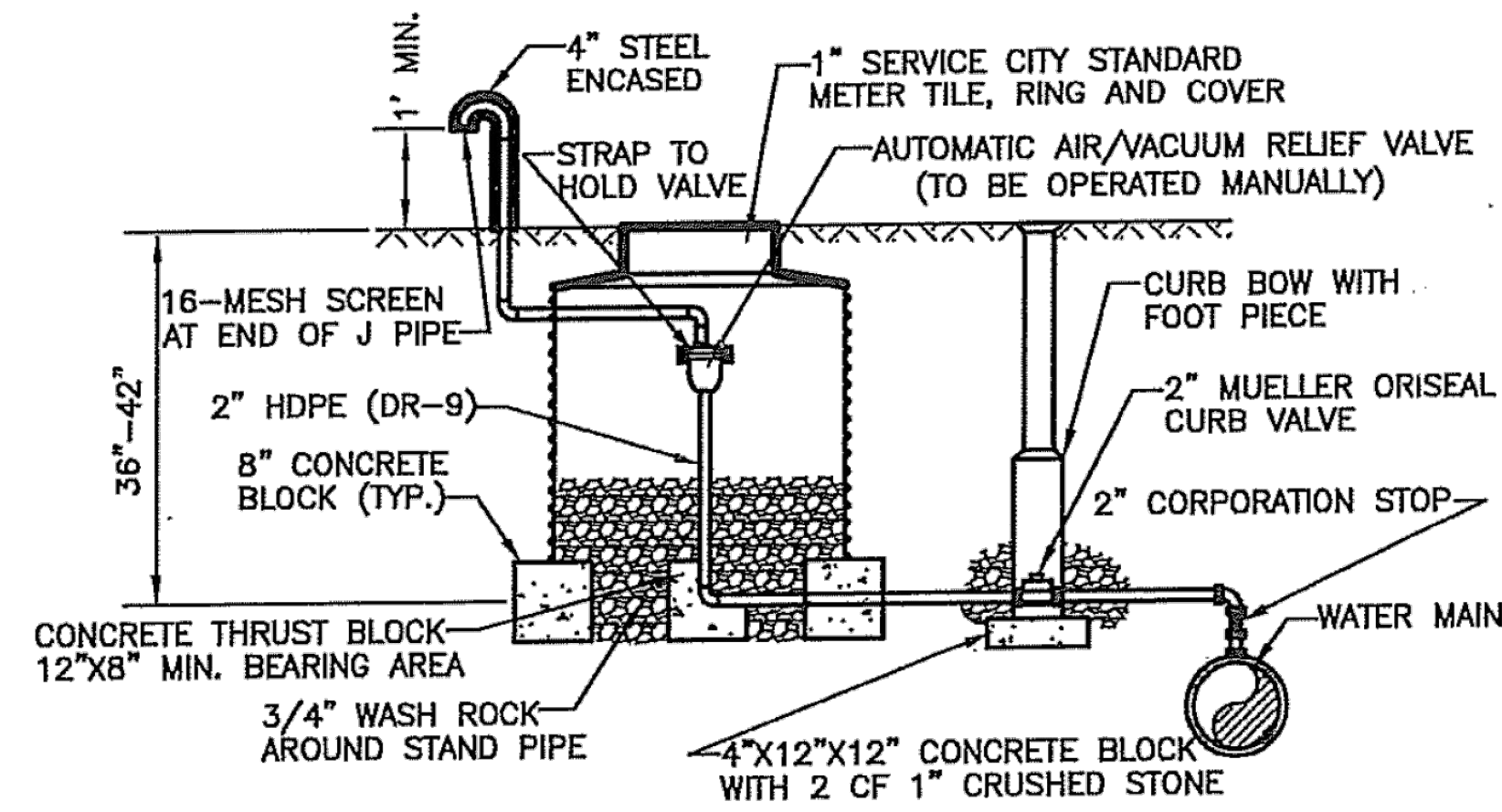
**STANDARD DETAILS**

**TYPICAL PROJECT SIGNING THROUGH CONSTRUCTION AREAS**  
(DT-019)

DATE: APR 2026  
 SHEET: 56 OF 122  
 PROJ.: 701038.00



**AIR RELEASE BLOW-OFF**



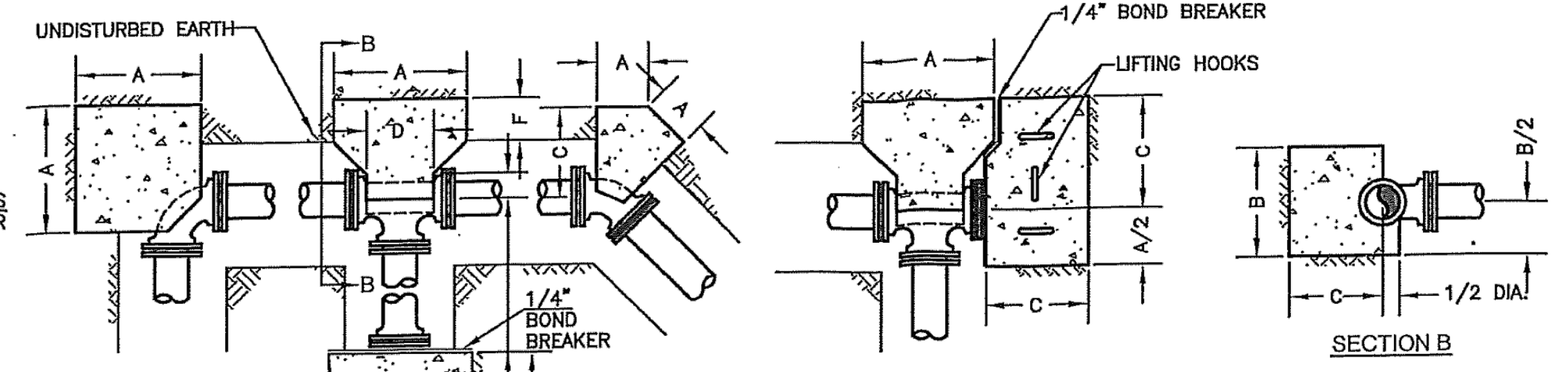
**AUTOMATIC AIR/VACUUM RELEASE (OPERATED MANUALLY)**

PIPE DIA.	45° VERTICAL BEND						22.5° VERTICAL BEND						11.25° VERTICAL BEND					
	A	B	C	D	E	F	A	B	C	D	E	F	A	B	C	D	E	F
4"	30	30	30	18	12	12	21	21	12	12	12	12	18	18	24	12	12	12
6"	36	36	36	21	24	12	21	21	18	15	18	12	21	21	27	15	18	12
8"	42	42	42	27	36	18	36	36	42	18	24	18	24	24	30	18	24	18
10"	48	48	48	36	39	27	42	42	48	24	30	27	30	30	36	24	30	27
12"	54	54	54	42	48	33	48	48	54	27	36	30	33	33	39	27	36	30

ALL DIMENSIONS ARE IN INCHES.

ONE (1) 1" Ø HOOK FOR 16" AND SMALLER PIPING  
 TWO (2) 1-1/4" Ø HOOKS FOR 18" AND 24" PIPING  
 FOUR (4) 1-1/4" Ø HOOKS FOR 30" AND LARGER PIPING

**LIFTING HOOK DETAIL**

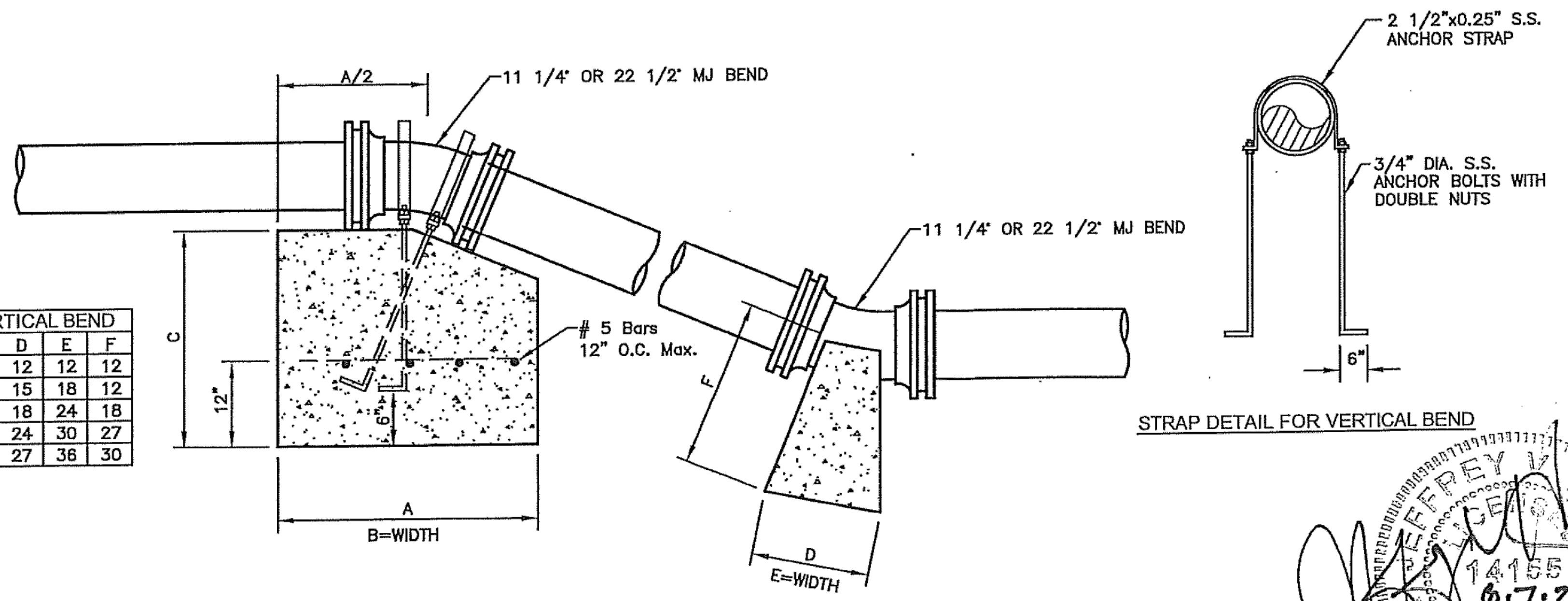


**PLAN**

PIPE DIA.	TEES						PLUGS			90° BEND			45° BEND			22.5° BEND			11.25° BEND		
	A	B	C	D	E	F	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
4"	13	22	9	13	—	—	13	22	9	18	12	9	9	12	12	6	12	12	—	—	—
6"	24	30	16	16	6	6	24	30	12	24	18	16	10	24	12	7	18	12	—	—	—
8"	34	32	21	18	7	6	34	32	18	30	26	21	13	36	18	9	24	18	9	24	18
10"	40	42	23	22	8	6	40	42	24	35	34	24	18	38	27	12	30	27	12	30	27
12"	48	52	27	24	9	6	48	52	24	42	42	30	21	48	33	14	36	30	10	42	24
16"	54	54	32	30	12	6	54	54	24	50	42	36	24	48	40	15	42	34	10	42	24
18"	60	60	34	32	12	6	60	60	24	54	48	38	27	54	44	17	46	37	10	42	24
20"	72	66	36	36	24	10	72	66	24	72	66	54	36	66	48	18	66	42	15	48	30
24"	96	72	36	44	19	8	96	72	24	82	60	60	44	60	72	22	60	54	15	48	36
30"	108	96	60	50	20	12	108	96	24	108	72	84	54	72	84	28	72	64	17	60	36
36"	108	108	60	56	23	12	108	108	24	108	108	80	68	84	96	34	84	69	20	72	36

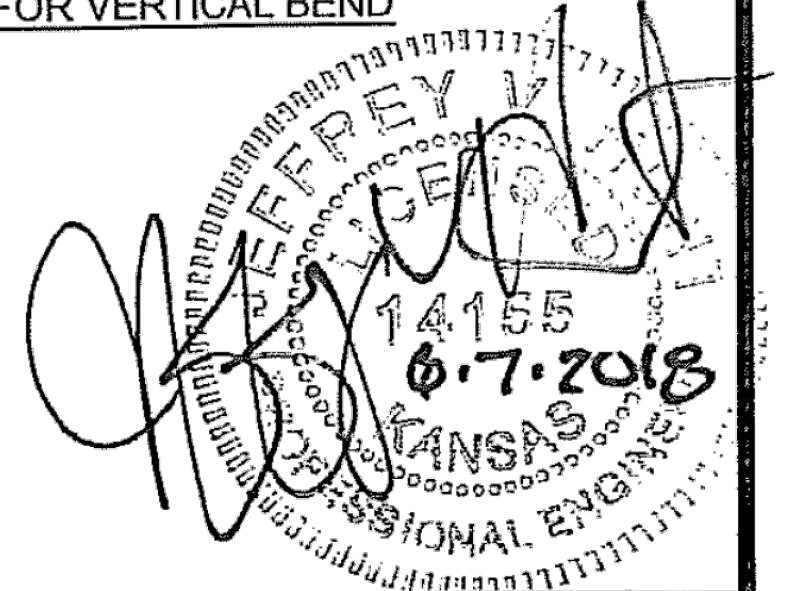
ALL DIMENSIONS ARE IN INCHES.  
 BLOCKING DESIGNED FOR 150 PSI WORKING PRESSURE AND 1500 PSF SOIL BEARING.  
 BLOCKING FOR REDUCED BRANCH TEES SHALL BE BASED ON BRANCH DIAMETER.  
 MAINTAIN MINIMUM "F" DIMENSION.

**CONCRETE BLOCKING DETAILS**



**11 1/4", 22 1/2", OR 45° VERTICAL BEND BLOCKING DETAIL**

**STRAP DETAIL FOR VERTICAL BEND**



NO.	DATE	REVISION	BY	APP'D
1	6/5/18	Corrected table values	DHS	PB

EDITED BY: DHS  
 APP'D BY: PB



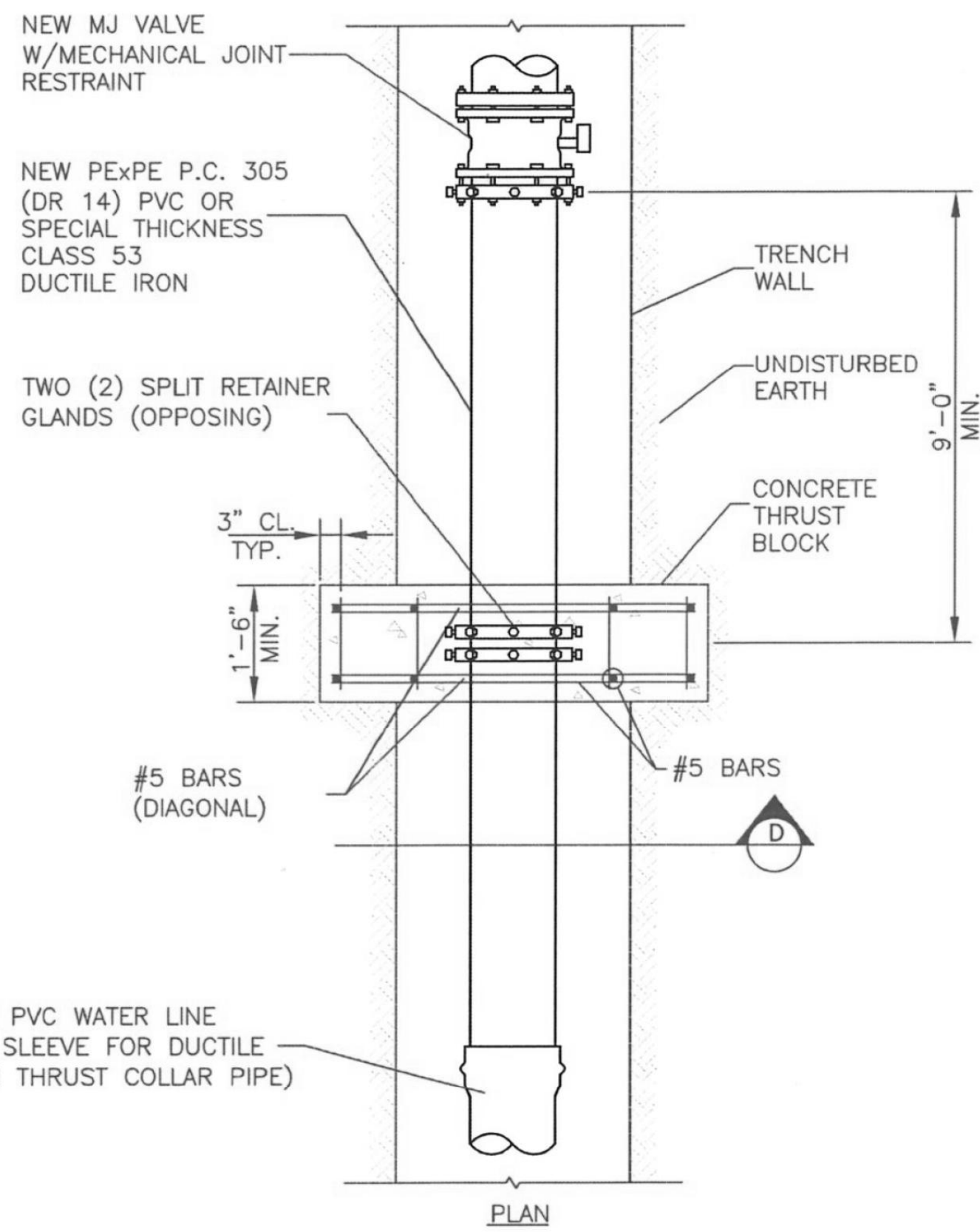
**SHAWNEE COUNTY, KANSAS**  
**PUBLIC WORKS DEPARTMENT**  
 1515 NW SALINE  
 TOPEKA, KS 66618  
 (785) 233-7702



**STANDARD DETAILS**

**WATER DETAILS I**  
 (DT-23)

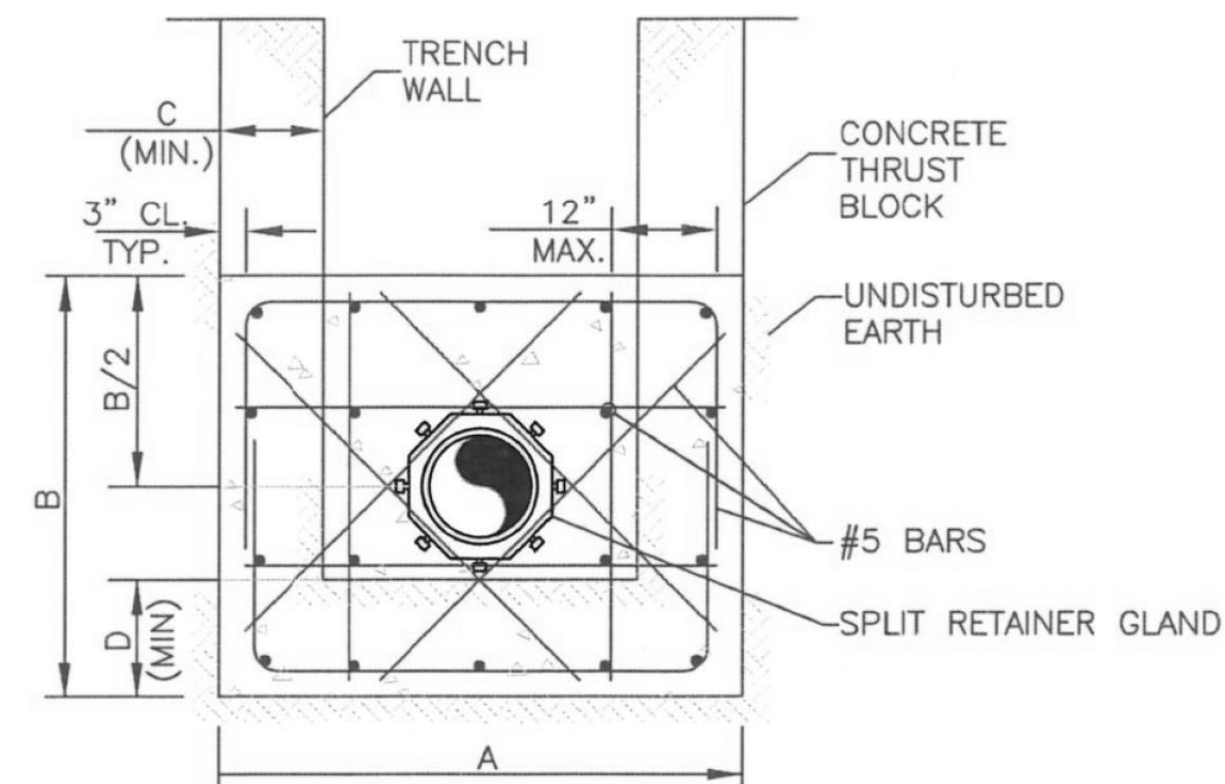
DATE: APR 2026  
 SHEET: 57 OF 122  
 PROJ.: 701038.00



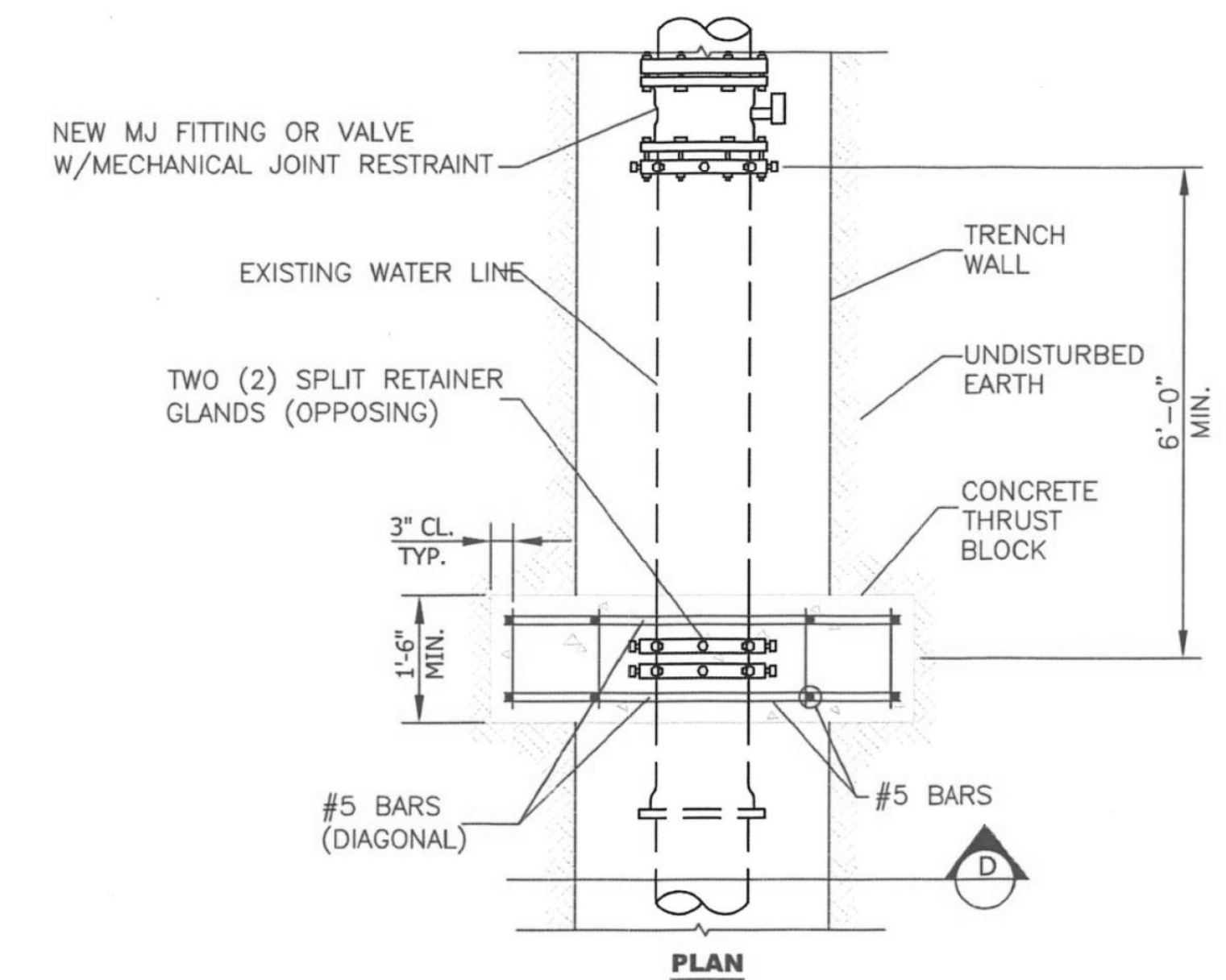
**12" AND SMALLER CONCRETE THRUST COLLAR PIPE DETAIL**  
NO SCALE

PIPE DIA.	THRUST COLLAR			
	A	B	C	D
4"	36	24	4	8
6"	46	30	8	10
8"	52	36	12	12
10"	64	42	15	14
12"	72	48	18	16

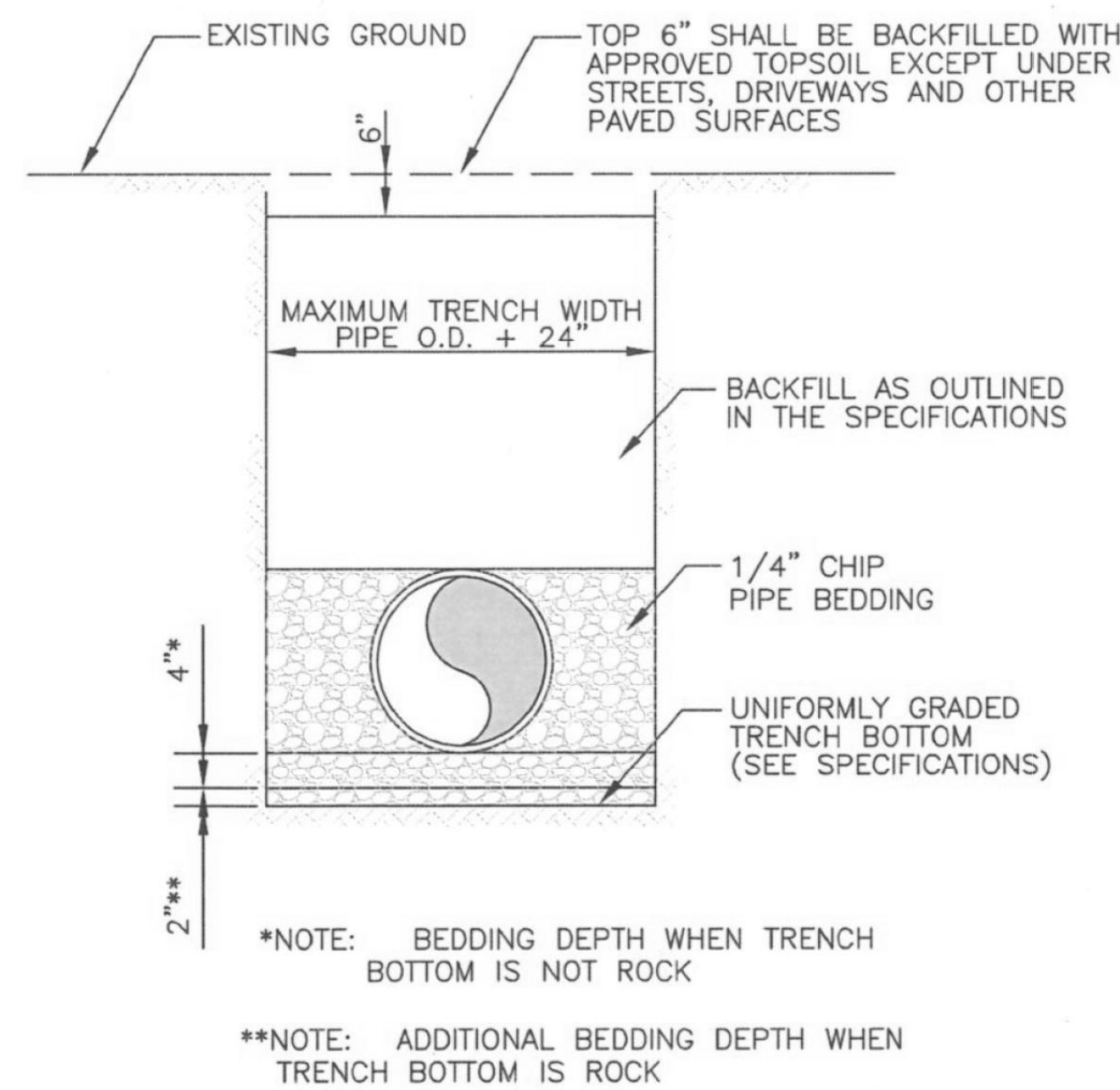
ALL DIMENSIONS ARE IN INCHES.



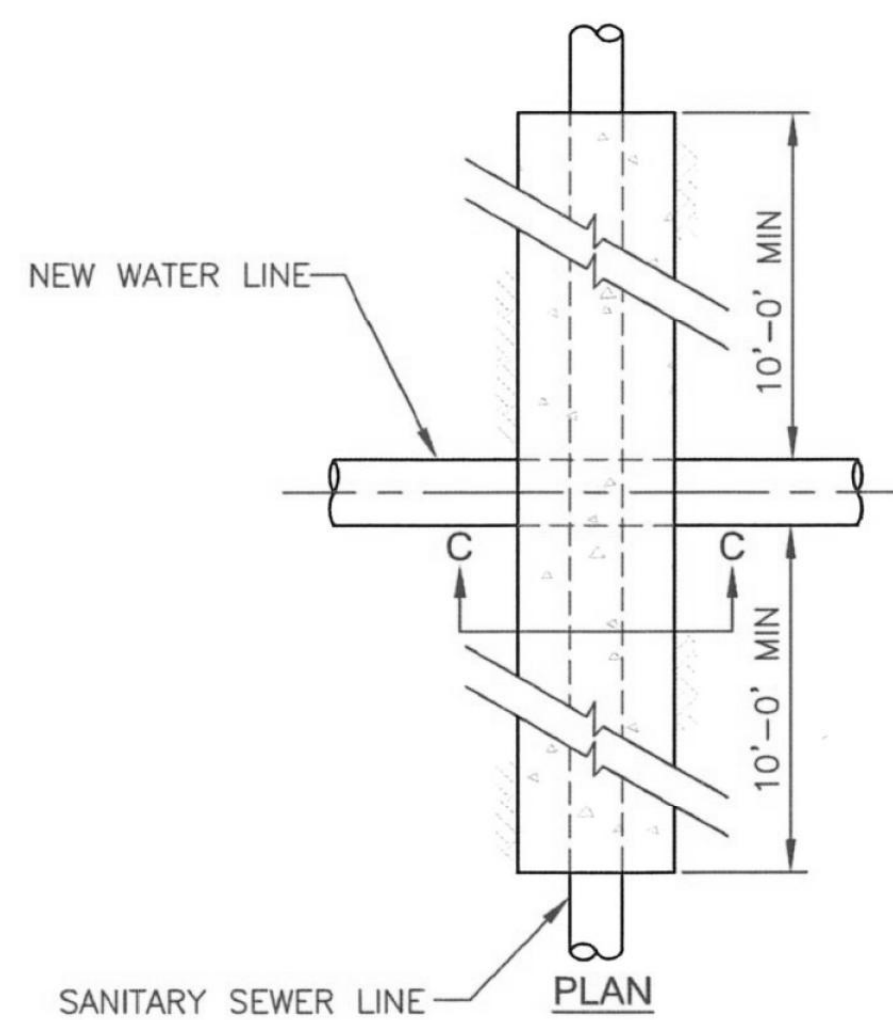
**SECTION D** NOTE: BARS SHOWN AT MAXIMUM SPACING. MINIMUM NUMBER AND SIZE OF BARS REQUIRED AS SHOWN.



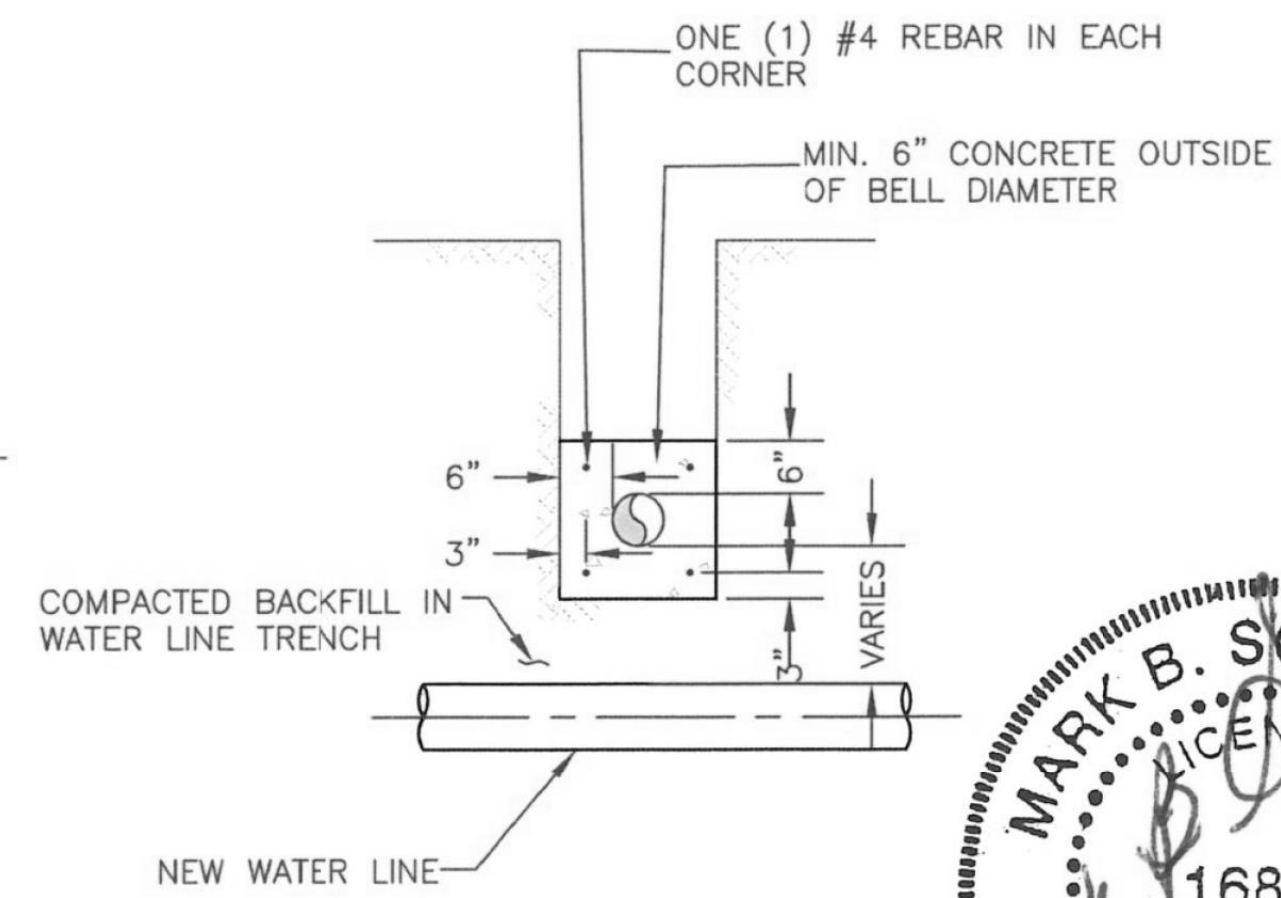
**12" AND SMALLER CONCRETE THRUST COLLAR ON EXISTING DETAIL**  
NO SCALE



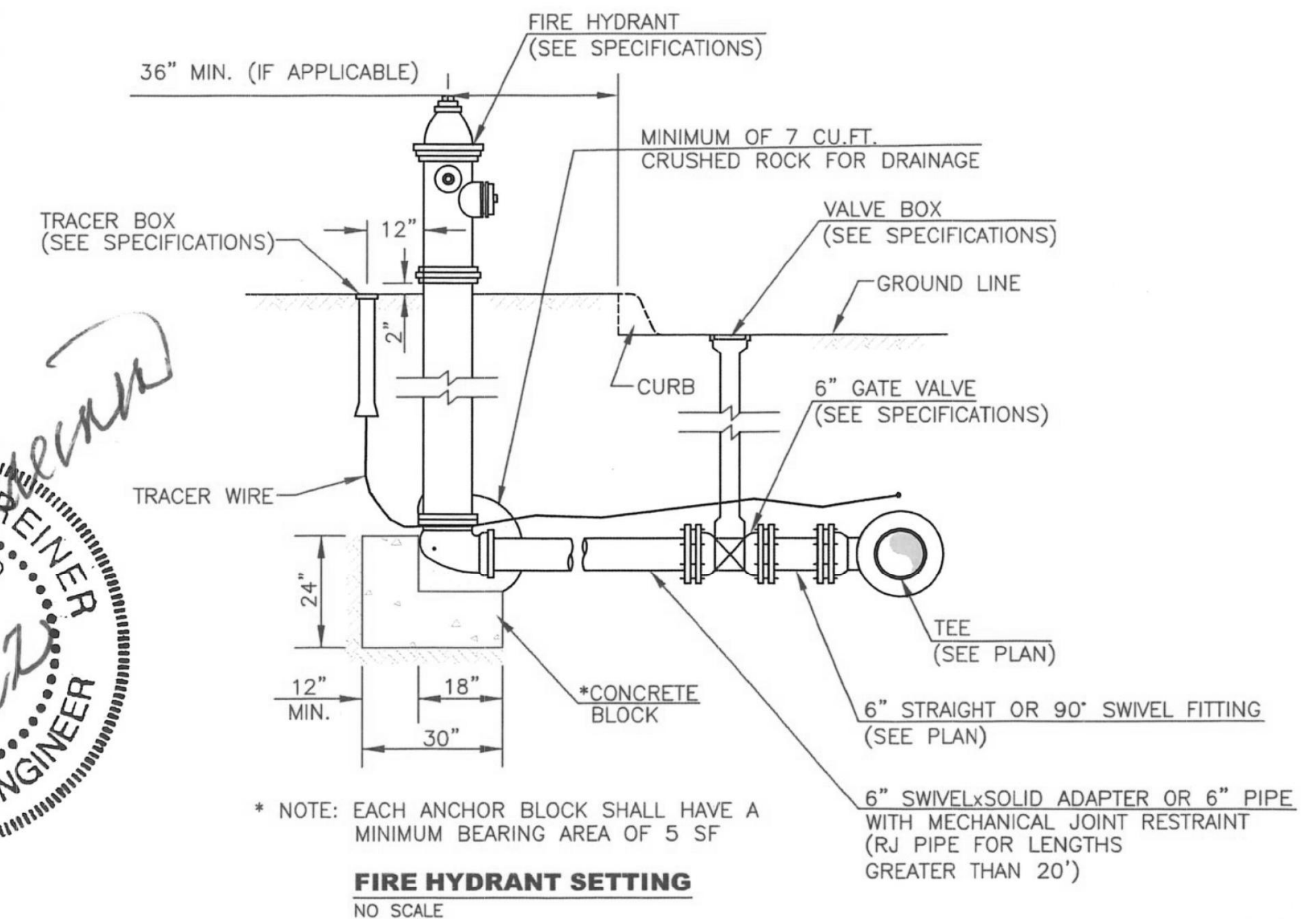
**TYPICAL TRENCH & PIPE BEDDING DETAIL**  
NO SCALE



**CONCRETE ENCASUREMENT SANITARY SEWER LINE CROSSING DETAIL**  
NO SCALE



**SECTION C**



**FIRE HYDRANT SETTING**  
NO SCALE

NO.	DATE	REVISION	BY:	APP'D
2	7/12/22	Updated Standard(odd thrust collar detail)	MDB	MBS
1	6/9/17	Updated Standard	DHS	PB

EDITED BY: MDB  
APP'D BY: MBS



**SHAWNEE COUNTY, KANSAS**  
**PUBLIC WORKS DEPARTMENT**  
1515 NW SALINE  
TOPEKA, KS 66618  
(785) 233-7702

**TOPEKA**  
*Public Works*  
**ENGINEERING**  
620 SE MADISON St. • 2nd Floor • TOPEKA, KS 66607  
Phone: (785) 368-3842 • Fax: (785) 368-3881

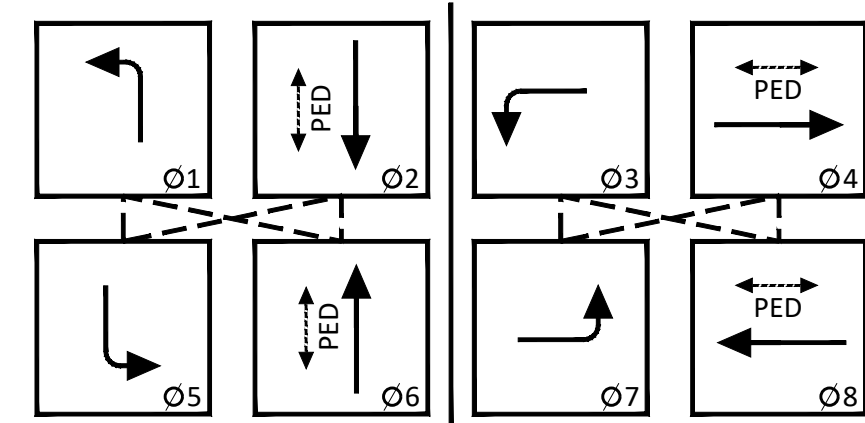
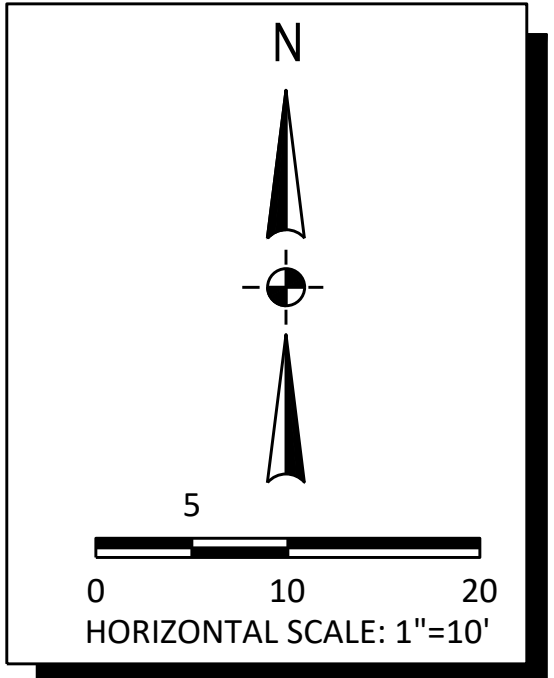
STANDARD DETAILS

WATER DETAILS 2  
(DT-024)

DATE: APR 2026  
SHEET: 58 OF 122  
PROJ.: 701038.00

**GENERAL NOTES:**

1. THE LOCATIONS OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE SHOWN IN AN APPROXIMATE POSITION ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES.
2. ALL WORK AND MATERIALS SHALL BE IN CONFORMANCE WITH THE CITY OF TOPEKA TECHNICAL SPECIFICATIONS.
3. TRAFFIC CONTROL OFFICER SHALL BE PRESENT DURING PERIODS OF TRAFFIC DISRUPTION FOR INSTALLATION OF SIGNAL POLES AND DURING TRAFFIC SIGNAL SWITCH OVER TO NEW SYSTEM.
4. CONTRACTOR, AT HIS OWN COST, SHALL REPLACE ALL SIDEWALKS AND OTHER AREAS DISTURBED BY CONSTRUCTION THAT WERE NOT PLANNED FOR REMOVAL OR CONSTRUCTION. ENTIRE PANELS BETWEEN JOINTS SHALL BE REPLACED AND EXISTING JOINT PATTERN SHALL BE REPRODUCED.
5. CONTRACTOR SHALL SALVAGE EXISTING TRAFFIC SIGNAL HEADS, LAMPS, AND ELECTRONICS. SALVAGED EQUIPMENT SHALL BE DELIVERED TO THE CITY OF TOPEKA, KS, TRAFFIC OPERATIONS.
6. CONTRACTOR SHALL ADVISE THE CITY OF TOPEKA TRAFFIC DEPARTMENT OF THE PROJECT SCHEDULE AND ANY CHANGES TO TRAFFIC CONTROL PHASE CHANGES AS THE WORK PROGRESSES.
7. SERVICE BOXES SHALL BE 12"x24"x24" FIBERGLASS REINFORCED MONOLITHIC POLYMER CONCRETE SERVICE BOX. FLOORLESS WITH GASKETED LID.
8. PEDESTRIAN PUSHBUTTON EXTENSION BRACKETS SHALL BE PROVIDED FOR EACH PUSHBUTTON AND SHALL BE SUBSIDIARY TO THE PUSHBUTTON.
9. CONTRACTOR TO COORDINATE WITH EVERGY FOR LOCATION OF POWER SOURCE AND CONNECTION. EVERGY WILL RUN NEW OVERHEAD POWER FROM THEIR EXISTING POWER POLE IN THE SOUTHEAST CORNER TO THE PROPOSED SIGNAL POLE #1 IN THE SOUTHEAST CORNER. DISCONNECT AND THE 3" PVC RISER CONDUIT (WITH WEATHERHEAD) ON THE SIGNAL POLE ABOVE THE METER (RISER IS FULL HEIGHT OF POLE). THE CONTRACTOR SHALL RUN UNDERGROUND 2" HDPE CONDUIT AND POWER CABLE FROM THE METER ON THE POLE TO THE PROPOSED CONTROLLER.
10. CONTRACTOR TO ADJUST TOP TO MATCH THE PROPOSED SIDEWALK ELEVATIONS. ADJUSTMENT IS SUBSIDIARY TO THE TRAFFIC SIGNAL BID ITEM.
11. POLE #1 AND POLE #3 WILL NOT INCLUDE LUMINAIRE ARMS. EVERGY WILL INSTALL LIGHTING ON THEIR OWN POWER POLES IN THESE CORNERS.

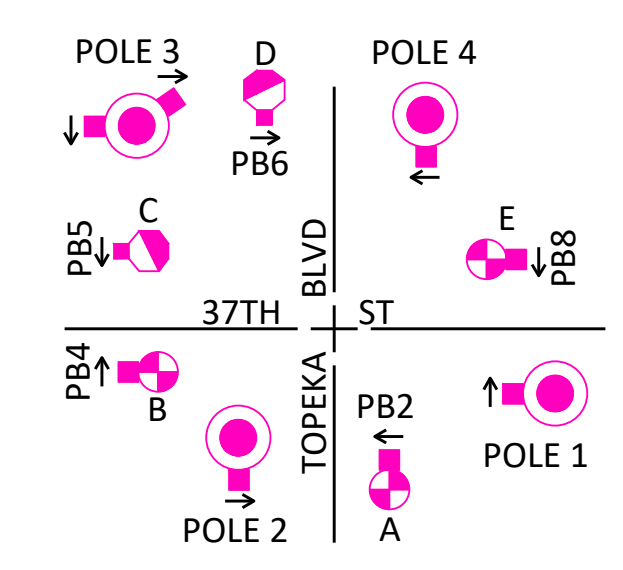


**MOVEMENTS**

PROTECTED PHASE

PEDESTRIAN PHASE

**SIGNAL PHASING**

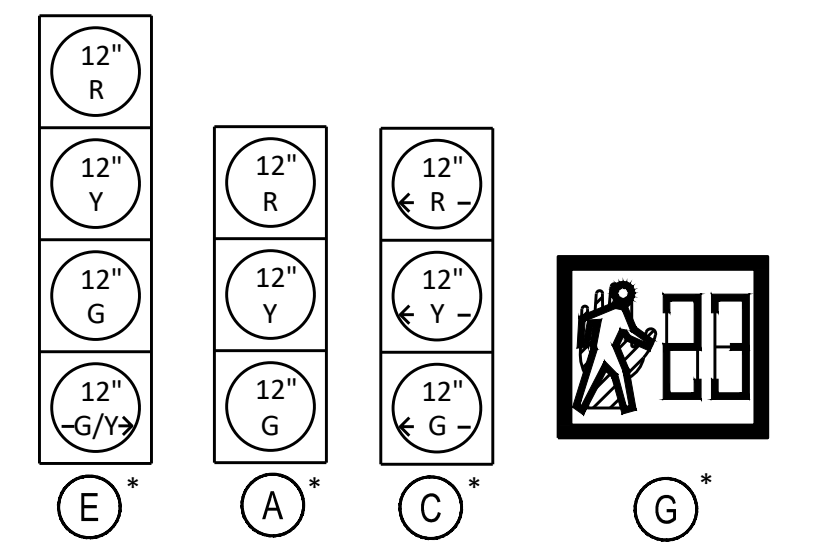


**PEDESTRIAN PUSHBUTTON DETAIL**

**TRAFFIC SIGNAL LEGEND**

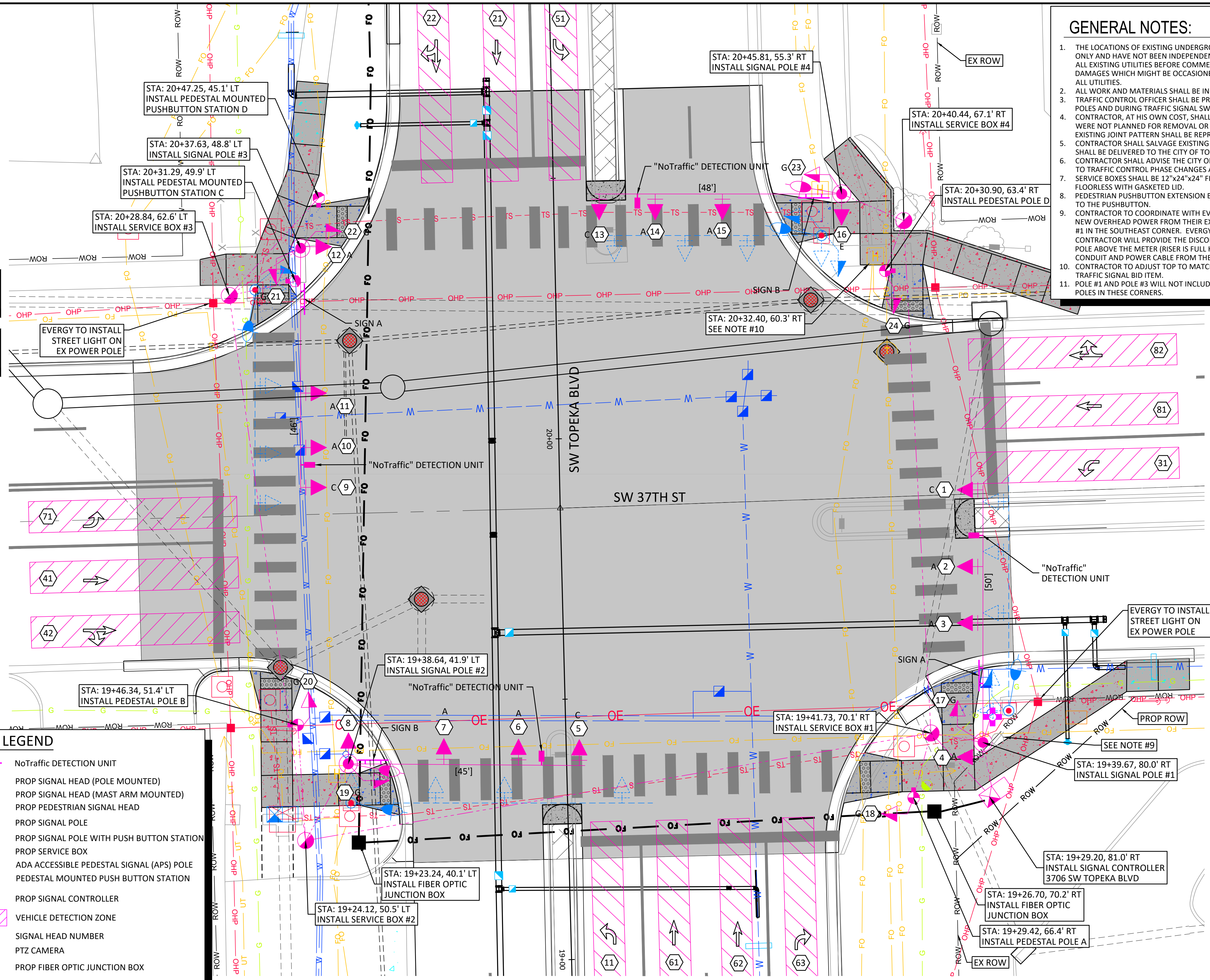
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- EX SIGNAL HEAD (MAST ARM MOUNTED)
- EX PEDESTRIAN SIGNAL HEAD
- EX TRAFFIC SIGNAL POLE AND MAST ARM WITH MAST ARM LENGTH
- EX SIGNAL SERVICE BOX
- EX STREET LIGHT
- NoTraffic DETECTION UNIT
- PROP SIGNAL HEAD (POLE MOUNTED)
- PROP SIGNAL HEAD (MAST ARM MOUNTED)
- PROP PEDESTRIAN SIGNAL HEAD
- PROP SIGNAL POLE
- PROP SIGNAL POLE WITH PUSH BUTTON STATION
- PROP SERVICE BOX
- ADA ACCESSIBLE PEDESTAL SIGNAL (APS) POLE
- PEDESTAL MOUNTED PUSH BUTTON STATION
- PROP SIGNAL CONTROLLER
- VEHICLE DETECTION ZONE
- SIGNAL HEAD NUMBER
- PTZ CAMERA
- PROP FIBER OPTIC JUNCTION BOX
- PROP FIBER OPTIC INTERCONNECT LINE

SIGNAL HEAD SUMMARY	
HEAD DESIGN	HEAD NUMBER
A	2, 3, 4, 6, 7, 8, 10, 11, 12, 14, 15
B	
C	1, 5, 9, 13
D	
E	16
F	
G	17, 18, 19, 20, 21, 22, 23, 24
H	



**SIGNAL HEAD NOTES:**

\* ALL INDICATIONS SHALL BE L.E.D DISPLAYS (12" DIA. LENS), EXCEPT CLAMHELL PEDESTRIAN DISPLAYS WHICH SHALL BE 18" WIDE X 19" TALL.



**SW TOPEKA BLVD AND SW 37TH ST TRAFFIC SIGNAL PLAN**  
Scale: 1" = 10' (Full Size)

DRAWN BY: \_\_\_\_\_

APP'D BY: \_\_\_\_\_

**benesch**  
Alfred Benesch & Company  
123 SE 6th, Suite 200  
Topeka, Kansas 66603  
Ph 785.409.6507

**TOPEKA**  
*Public Works*  
**ENGINEERING**  
620 SE MADISON ST. • 2nd Floor • TOPEKA, KS 66607  
Phone: (785) 368-3842 • Fax: (785) 368-3881

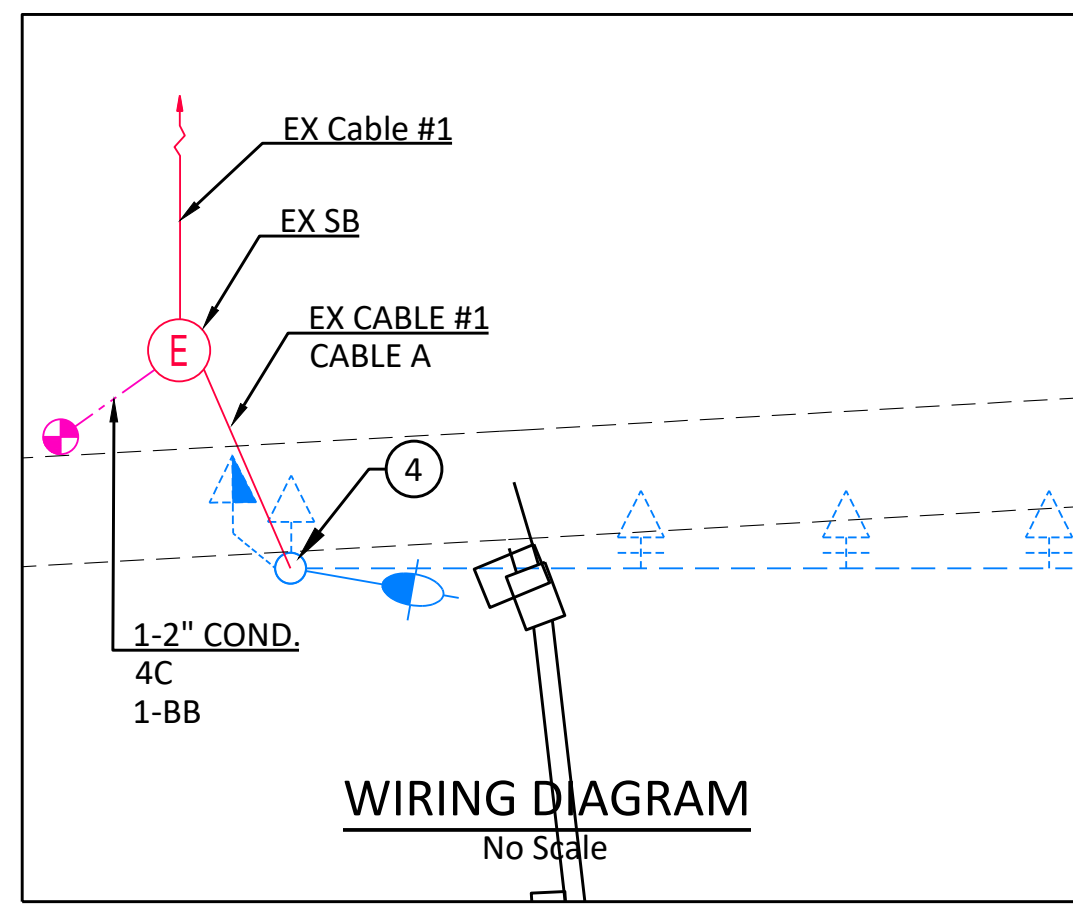
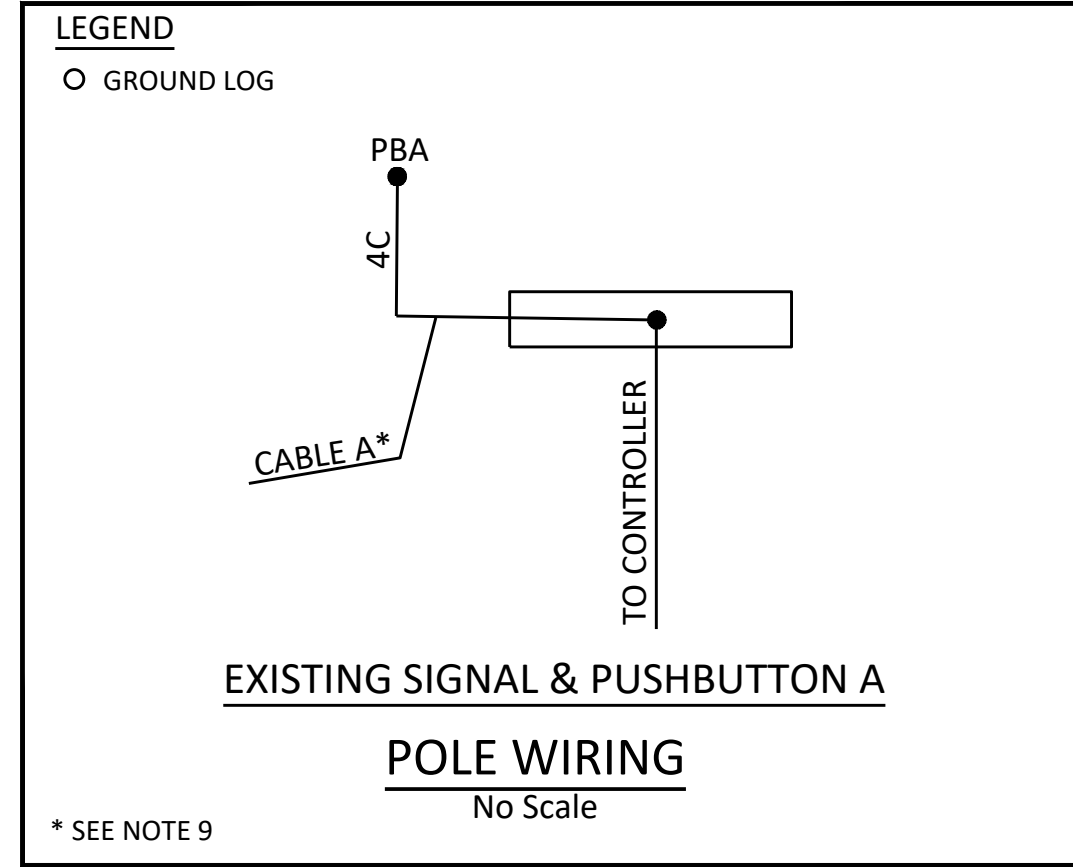
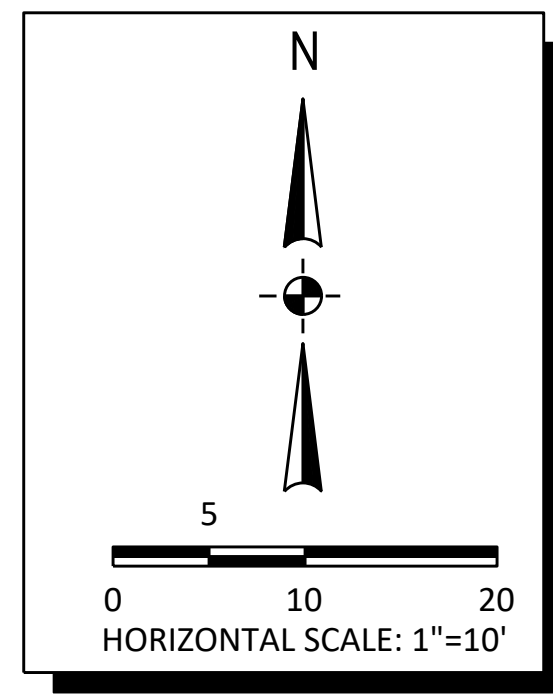
TOPEKA BLVD  
IMPROVEMENTS:  
PROJECT #701038.00

TRAFFIC SIGNAL PLAN  
SW 37TH ST AND SW TOPEKA BLVD

DATE: APR 2026  
SHEET: 59 OF 122  
PROJ.: 701038.00

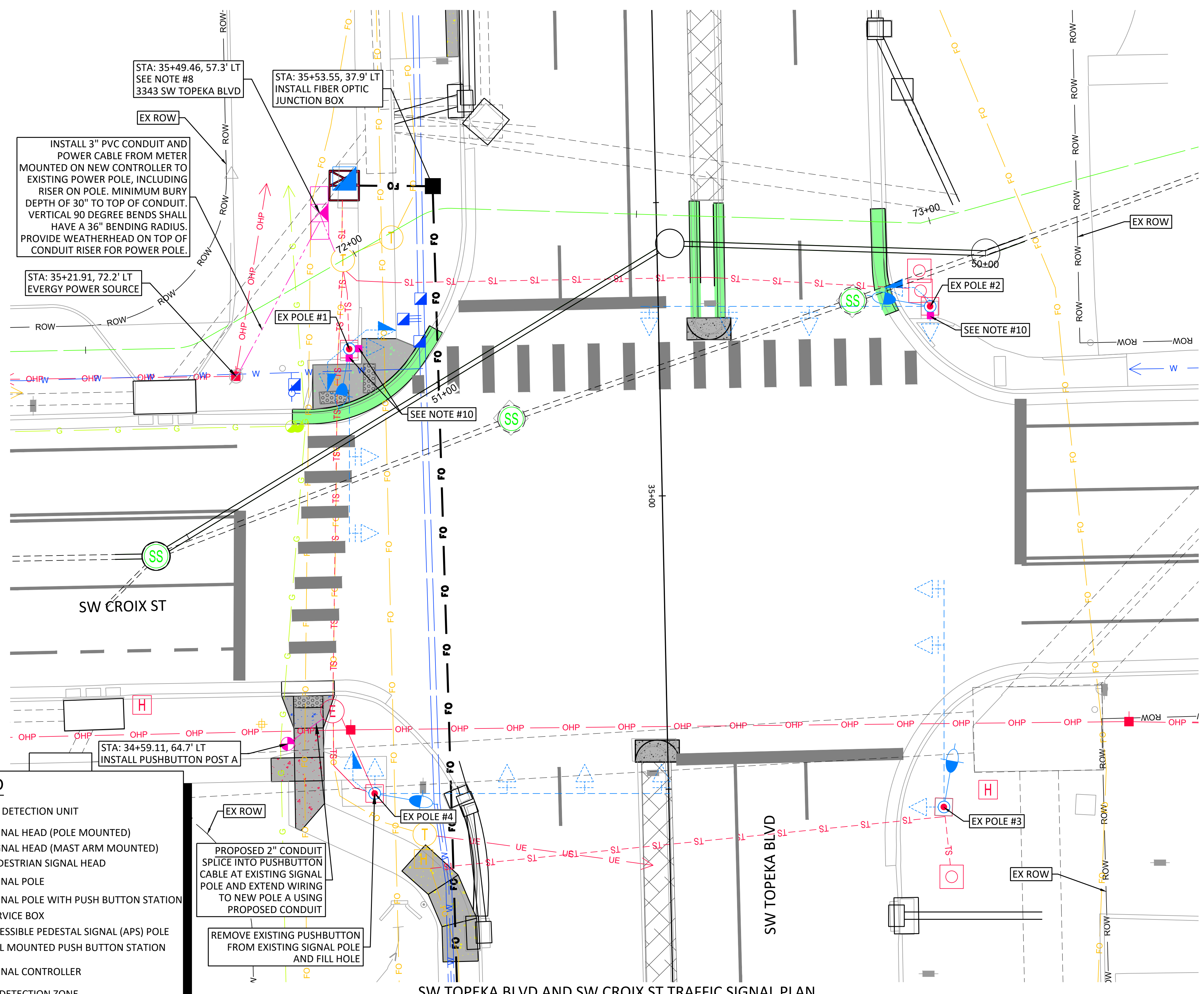
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NO.	DATE:	REVISION	BY:	APP'D



**TRAFFIC SIGNAL LEGEND**

- |  |  |  |   |
|--|--|--|---|
|  | EX SIGNAL HEAD (POLE MOUNTED)                            |  | NoTraffic DETECTION UNIT                  |
|  | EX SIGNAL HEAD (MAST ARM MOUNTED)                        |  | PROP SIGNAL HEAD (POLE MOUNTED)           |
|  | EX PEDESTRIAN SIGNAL HEAD                                |  | PROP SIGNAL HEAD (MAST ARM MOUNTED)       |
|  | EX TRAFFIC SIGNAL POLE AND MAST ARM WITH MAST ARM LENGTH |  | PROP PEDESTRIAN SIGNAL HEAD               |
|  | EX SIGNAL SERVICE BOX                                    |  | PROP SIGNAL POLE                          |
|  | EX STREET LIGHT  |  | PROP SIGNAL POLE WITH PUSH BUTTON STATION |
|  |  |  | PROP SERVICE BOX                          |
|  |  |  | ADA ACCESSIBLE PEDESTAL SIGNAL (APS) POLE |
|  |  |  | PEDESTAL MOUNTED PUSH BUTTON STATION      |
|  |  |  | PROP SIGNAL CONTROLLER                    |
|  | VEHICLE DETECTION ZONE                                   |  |   |
|  | SIGNAL HEAD NUMBER                                       |  |   |
|  | PTZ CAMERA   |  |   |
|  | PROP FIBER OPTIC JUNCTION BOX                            |  |   |
|  | PROP FIBER OPTIC INTERCONNECT LINE                       |  |   |



**SW TOPEKA BLVD AND SW CROIX ST TRAFFIC SIGNAL PLAN**  
Scale: 1" = 10' (Full Size)

- GENERAL NOTES:**
1. THE LOCATIONS OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE SHOWN IN AN APPROXIMATE POSITION ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES.
  2. ALL WORK AND MATERIALS SHALL BE IN CONFORMANCE WITH THE CITY OF TOPEKA TECHNICAL SPECIFICATIONS.
  3. TRAFFIC CONTROL OFFICER SHALL BE PRESENT DURING PERIODS OF TRAFFIC DISRUPTION FOR INSTALLATION OF SIGNAL POLES AND DURING TRAFFIC SIGNAL SWITCH OVER TO NEW SYSTEM.
  4. CONTRACTOR, AT HIS OWN COST, SHALL REPLACE ALL SIDEWALKS AND OTHER AREAS DISTURBED BY CONSTRUCTION THAT WERE NOT PLANNED FOR REMOVAL OR CONSTRUCTION. ENTIRE PANELS BETWEEN JOINTS SHALL BE REPLACED AND EXISTING JOINT PATTERN SHALL BE REPRODUCED.
  5. CONTRACTOR SHALL SALVAGE EXISTING TRAFFIC SIGNAL HEADS, LAMPS, AND ELECTRONICS. SALVAGED EQUIPMENT SHALL BE DELIVERED TO THE CITY OF TOPEKA, KS, TRAFFIC OPERATIONS.
  6. CONTRACTOR SHALL ADVISE THE CITY OF TOPEKA TRAFFIC DEPARTMENT OF THE PROJECT SCHEDULE AND ANY CHANGES TO TRAFFIC CONTROL PHASE CHANGES AS THE WORK PROGRESSES.
  7. ALL WORK AND MATERIALS REQUIRED TO MODIFY THE SIGNAL IS INCLUDED IN THE BID ITEM "TRAFFIC SIGNAL MODIFICATION (CROIX)".
  8. REPLACE EXISTING 332 CABINET WITH A NEW ECONOLITE 333-SD-ITS PAD MOUNTED CABINET WITH UPS & AUXILIARY FILES. CONTRACTOR SHALL DISCONNECT SIGNAL CABLES FROM EXISTING CONTROLLER AND RECONNECT TO NEW SIGNAL CONTROLLER. WORK SHALL BE SUBSIDIARY TO SIGNAL MODIFICATIONS.
  9. SPLICE CABLE A FROM PROPOSED PEDESTAL MOUNTED PUSHBUTTON STATION A TO EXISTING CABLE 1 FROM EXISTING POLE #4.
  10. REPLACE EXISTING PEDESTRIAN PUSH BUTTON STATIONS ON POLES 1 AND 2, USING EXISTING WIRING.

File Location: Y:\Kansas\1325-60005\1325-60005-PROD-SIGNAL PLAN (TOPEKA BLVD).dwg [Plot Date: 4/24/2026 3:53:38 PM] [Last Saved: 4/24/2026 3:50:45 PM: Kscheller]

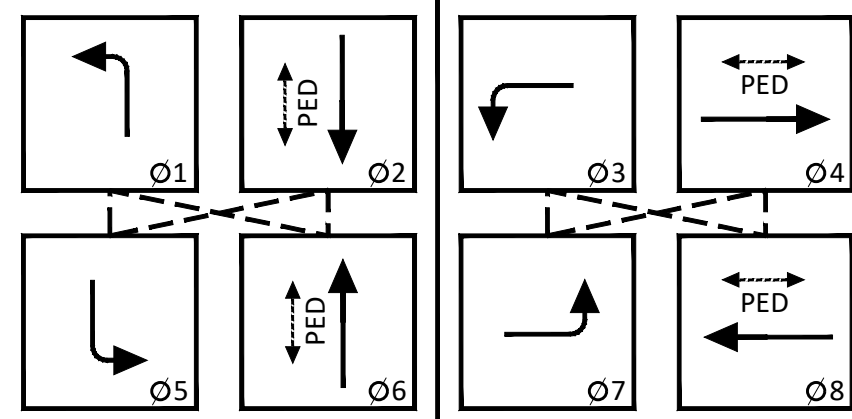
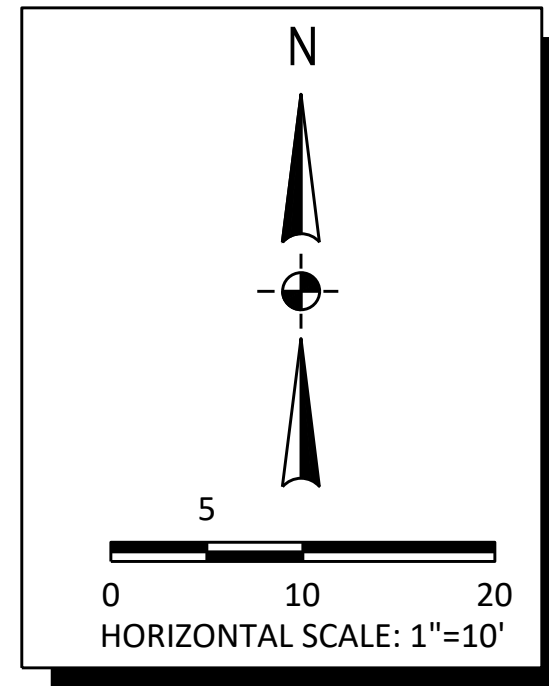
NO.	DATE:	REVISION	BY:	APPD

DRAWN BY: \_\_\_\_\_  
APPD BY: \_\_\_\_\_

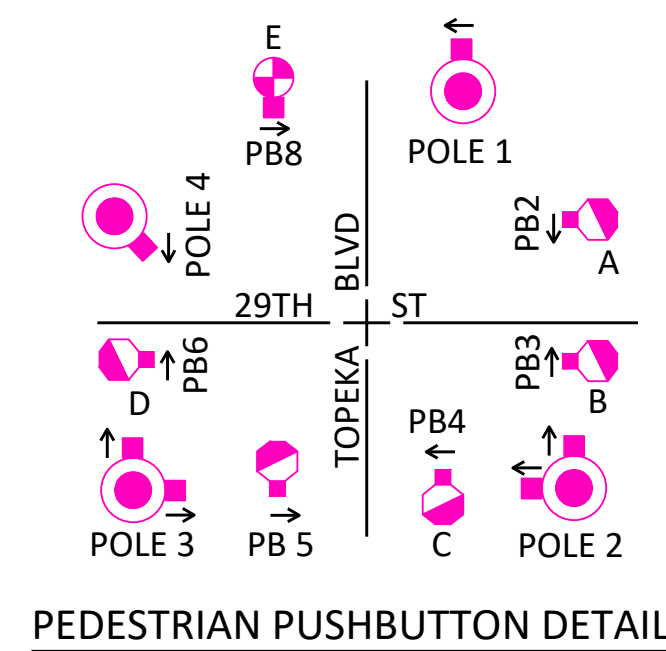
TOPEKA BLVD  
IMPROVEMENTS:  
PROJECT #701038.00

TRAFFIC SIGNAL PLAN  
SW CROIX ST AND SW TOPEKA BLVD

DATE: APR 2026  
SHEET: 60 OF 122  
PROJ.: 701038.00



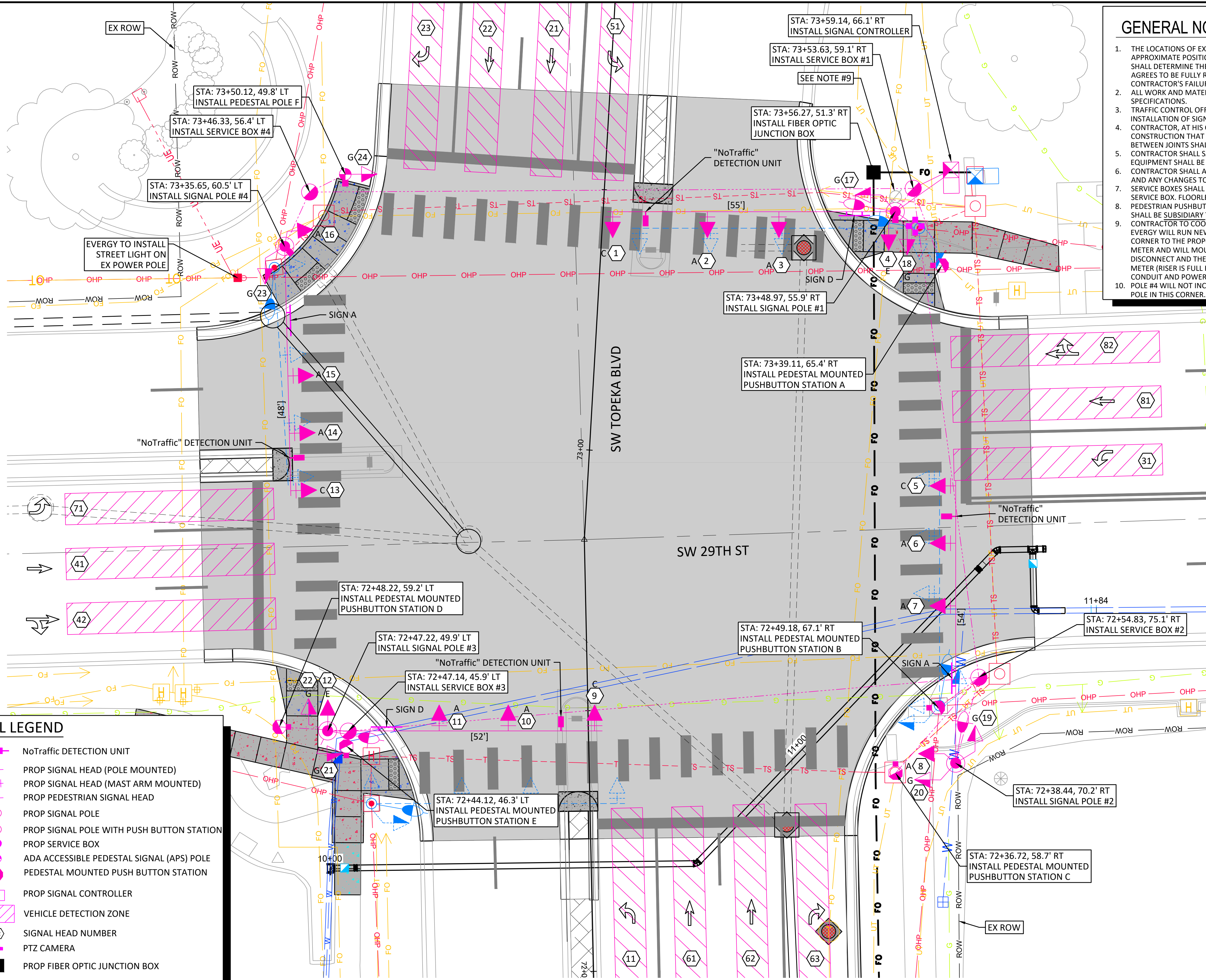
MOVEMENTS  
 PROTECTED PHASE  
 PEDESTRIAN PHASE  
 SIGNAL PHASING



PEDESTRIAN PUSHBUTTON DETAIL

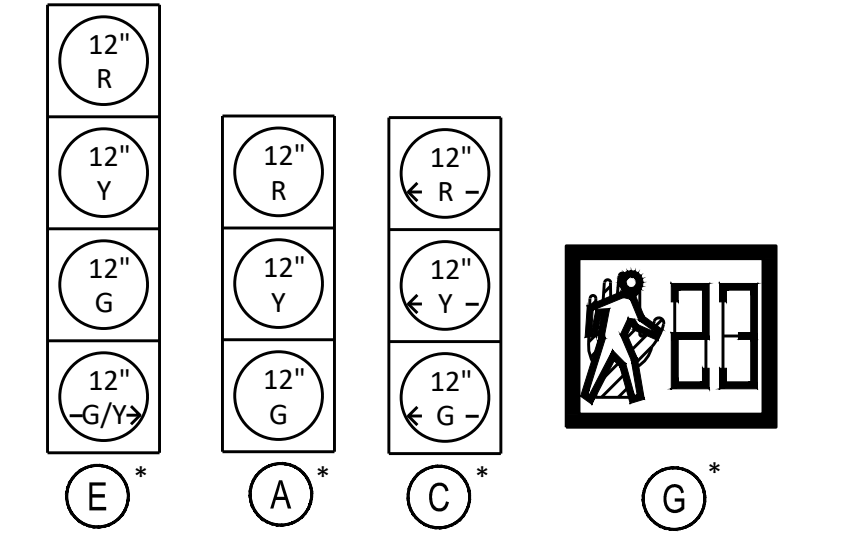
**TRAFFIC SIGNAL LEGEND**

- EX SIGNAL HEAD (POLE MOUNTED)
- EX SIGNAL HEAD (MAST ARM MOUNTED)
- EX PEDESTRIAN SIGNAL HEAD
- EX TRAFFIC SIGNAL POLE AND MAST ARM WITH MAST ARM LENGTH
- EX SIGNAL SERVICE BOX
- EX STREET LIGHT
- NoTraffic DETECTION UNIT
- PROP SIGNAL HEAD (POLE MOUNTED)
- PROP SIGNAL HEAD (MAST ARM MOUNTED)
- PROP PEDESTRIAN SIGNAL HEAD
- PROP SIGNAL POLE
- PROP SIGNAL POLE WITH PUSH BUTTON STATION
- PROP SERVICE BOX
- ADA ACCESSIBLE PEDESTAL SIGNAL (APS) POLE
- PEDESTAL MOUNTED PUSH BUTTON STATION
- PROP SIGNAL CONTROLLER
- VEHICLE DETECTION ZONE
- SIGNAL HEAD NUMBER
- PTZ CAMERA
- PROP FIBER OPTIC JUNCTION BOX
- PROP FIBER OPTIC INTERCONNECT LINE



- GENERAL NOTES:**
- THE LOCATIONS OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE SHOWN IN AN APPROXIMATE POSITION ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES.
  - ALL WORK AND MATERIALS SHALL BE IN CONFORMANCE WITH THE CITY OF TOPEKA TECHNICAL SPECIFICATIONS.
  - TRAFFIC CONTROL OFFICER SHALL BE PRESENT DURING PERIODS OF TRAFFIC DISRUPTION FOR INSTALLATION OF SIGNAL POLES AND DURING TRAFFIC SIGNAL SWITCH OVER TO NEW SYSTEM.
  - CONTRACTOR, AT HIS OWN COST, SHALL REPLACE ALL SIDEWALKS AND OTHER AREAS DISTURBED BY CONSTRUCTION THAT WERE NOT PLANNED FOR REMOVAL OR CONSTRUCTION. ENTIRE PANELS BETWEEN JOINTS SHALL BE REPLACED AND EXISTING JOINT PATTERN SHALL BE REPRODUCED.
  - CONTRACTOR SHALL SALVAGE EXISTING TRAFFIC SIGNAL HEADS, LAMPS, AND ELECTRONICS. SALVAGED EQUIPMENT SHALL BE DELIVERED TO THE CITY OF TOPEKA, KS, TRAFFIC OPERATIONS.
  - CONTRACTOR SHALL ADVISE THE CITY OF TOPEKA TRAFFIC DEPARTMENT OF THE PROJECT SCHEDULE AND ANY CHANGES TO TRAFFIC CONTROL PHASE CHANGES AS THE WORK PROGRESSES.
  - SERVICE BOXES SHALL BE 12"x24"x24" FIBERGLASS REINFORCED MONOLITHIC POLYMER CONCRETE SERVICE BOX. FLOORLESS WITH GASKETED LID.
  - PEDESTRIAN PUSHBUTTON EXTENSION BRACKETS SHALL BE PROVIDED FOR EACH PUSHBUTTON AND SHALL BE SUBSIDIARY TO THE PUSHBUTTON.
  - CONTRACTOR TO COORDINATE WITH EVERGY FOR LOCATION OF POWER SOURCE AND CONNECTION. EVERGY WILL RUN NEW OVERHEAD POWER FROM THEIR EXISTING POWER POLE IN THE NORTHEAST CORNER TO THE PROPOSED SIGNAL POLE #1 IN THE NORTHEAST CORNER. EVERGY WILL PROVIDE METER AND WILL MOUNT ON PROPOSED SIGNAL POLE #1. THE CONTRACTOR WILL PROVIDE THE DISCONNECT AND THE 3" PVC RISER CONDUIT (WITH WEATHERHEAD) ON THE SIGNAL POLE ABOVE THE METER (RISER IS FULL HEIGHT OF POLE). THE CONTRACTOR SHALL RUN UNDERGROUND 2" HDPE CONDUIT AND POWER CABLE FROM THE METER ON THE POLE TO THE PROPOSED CONTROLLER. POLE #4 WILL NOT INCLUDE LUMINAIRE ARM. EVERGY WILL INSTALL LIGHTING ON THEIR OWN POWER POLE IN THIS CORNER.

SIGNAL HEAD SUMMARY	
HEAD DESIGN	HEAD NUMBER
A	2, 3, 6, 7, 8, 10, 11, 14, 15, 16
B	
C	1, 5, 9, 13
D	
E	4, 12
F	
G	17, 18, 19, 20, 21, 22, 23, 24
H	



SIGNAL HEAD NOTES:  
 \* ALL INDICATIONS SHALL BE L.E.D DISPLAYS (12" DIA. LENS), EXCEPT CLAMSHELL PEDESTRIAN DISPLAYS WHICH SHALL BE 18" WIDE X 19" TALL.  
 \*\* GREEN AND YELLOW ARROWS OVERLAID

SW TOPEKA BLVD AND SW 29TH ST TRAFFIC SIGNAL PLAN  
 Scale: 1" = 10' (Full Size)

File Location: Y:\Kansas\1325-60005\1325-60005-PROD-SIGNAL PLAN (TOPEKA BLVD).dwg [Plot Date: 4/24/2026 3:54:16 PM] [Last Saved: 4/24/2026 3:50:45 PM] [Kscheller]

NO.	DATE:	REVISION	BY:	APPD:

DRAWN BY: \_\_\_\_\_  
 APPD BY: \_\_\_\_\_

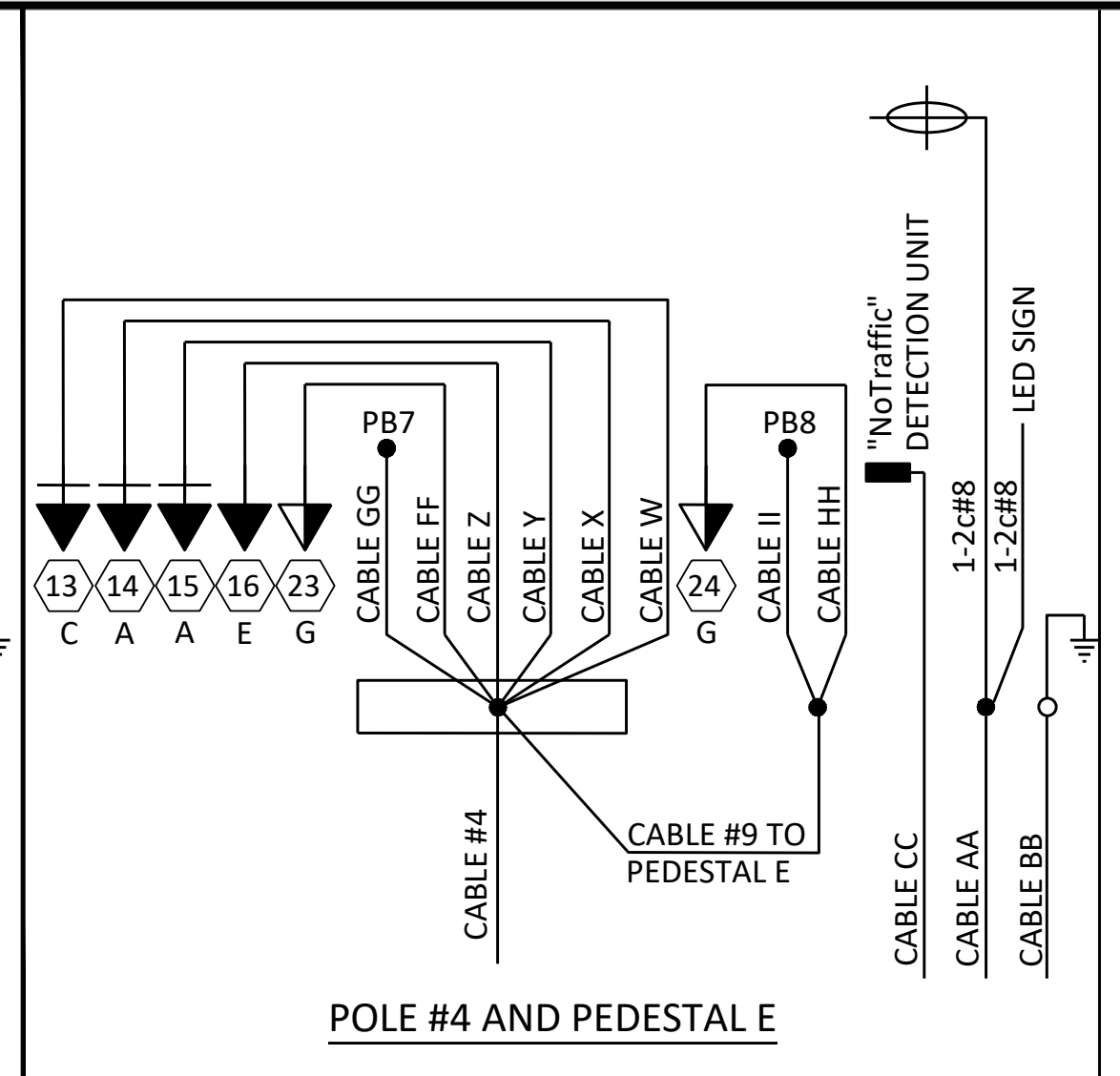
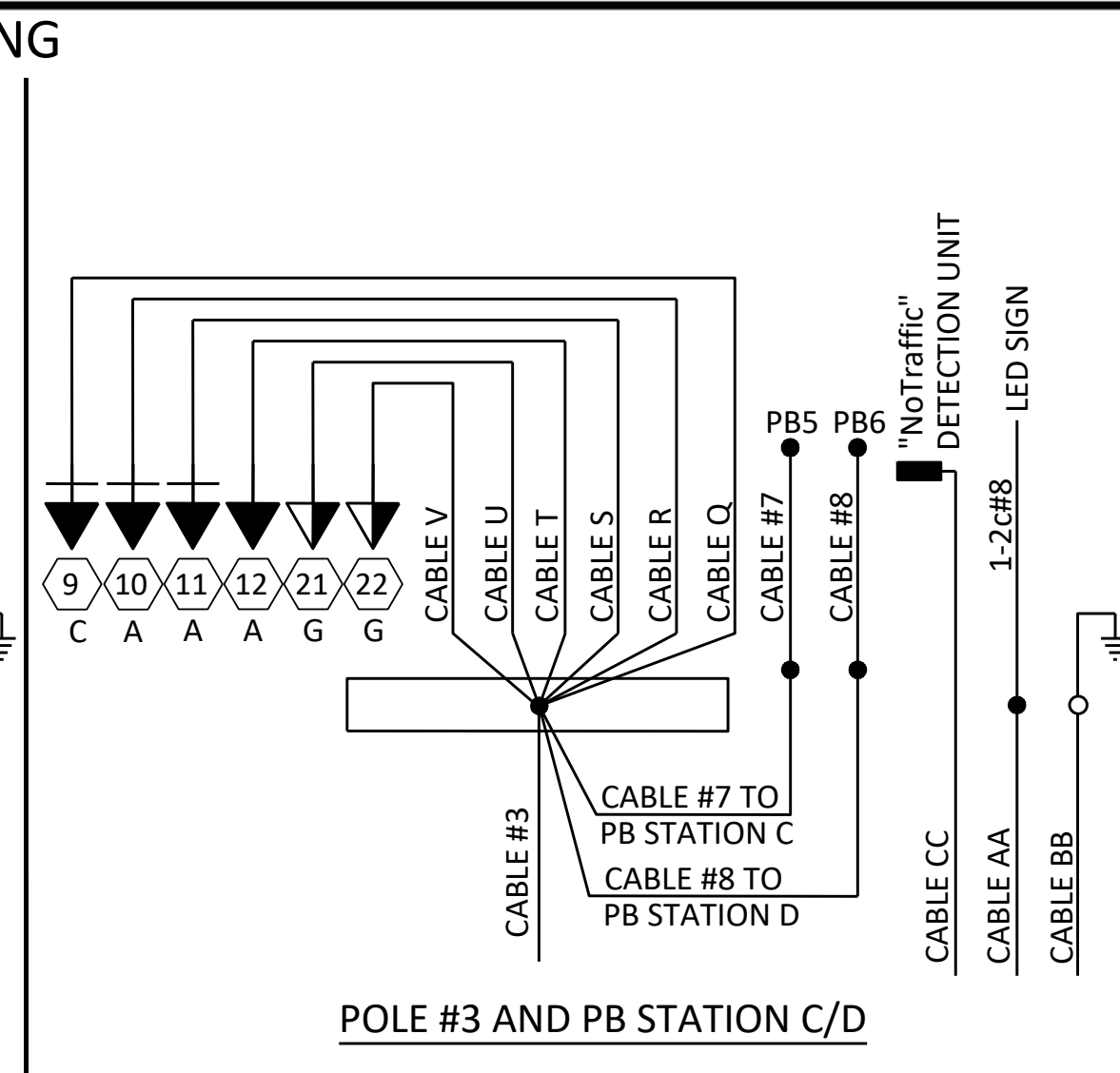
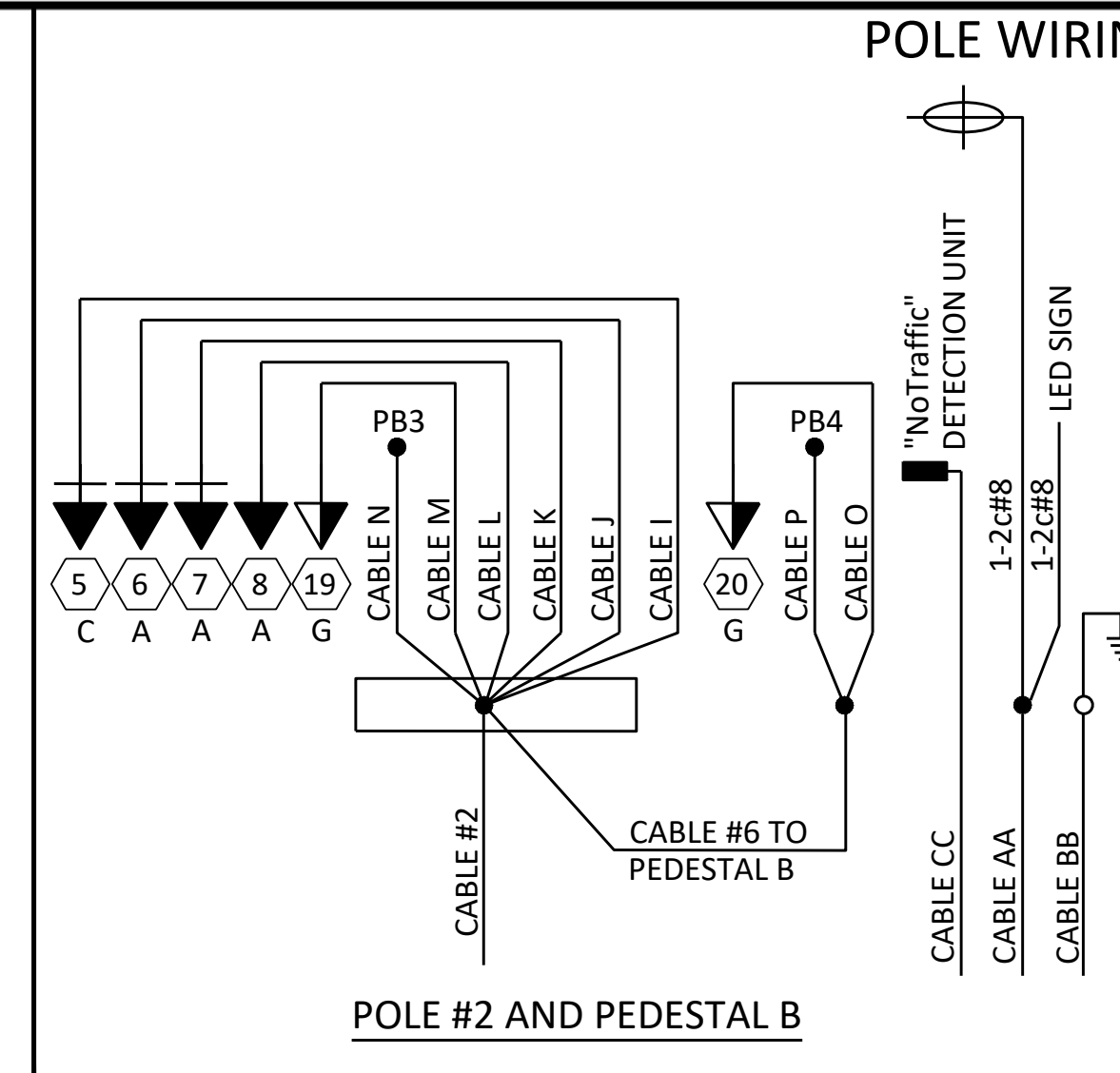
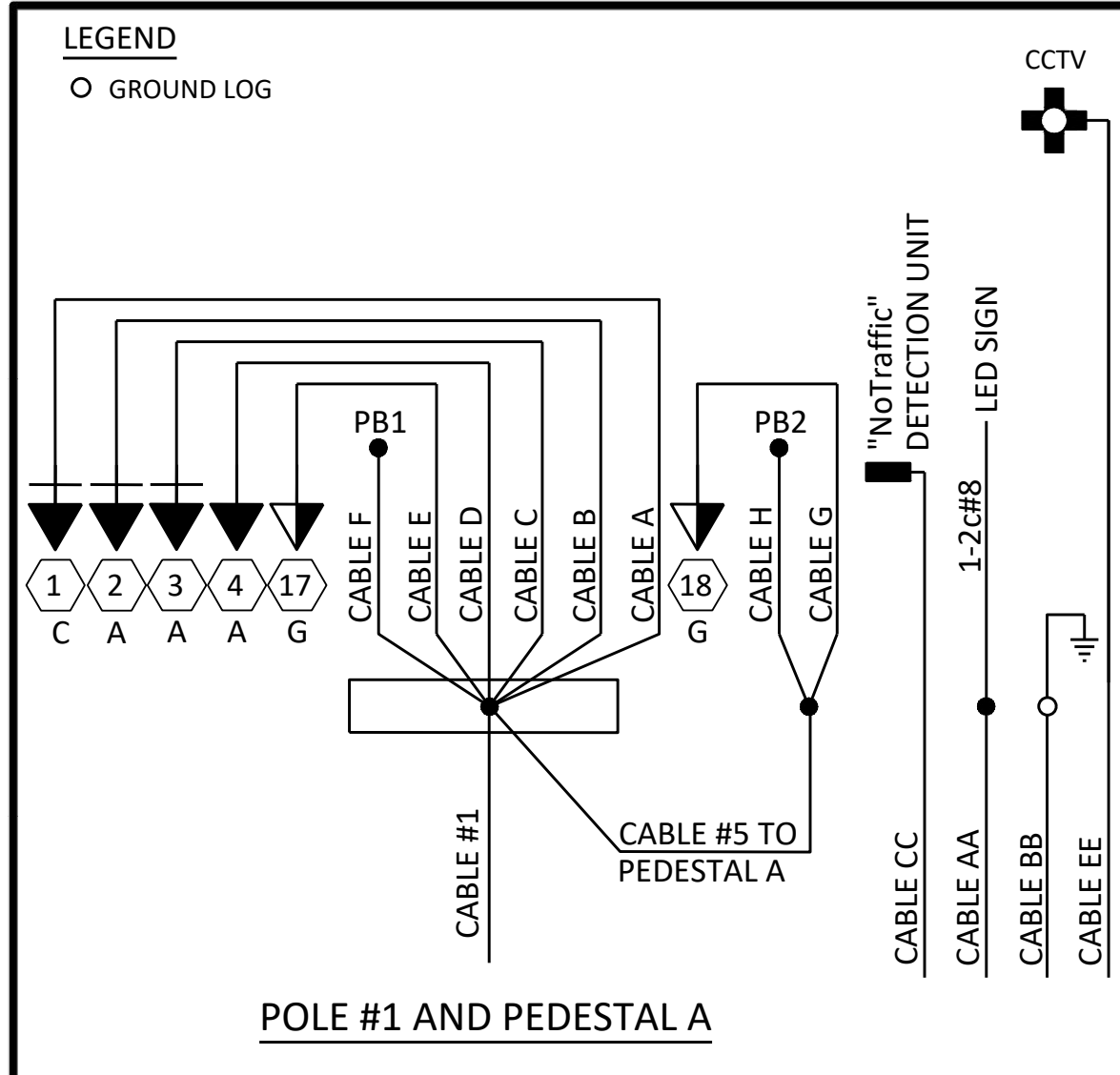
**benesch**  
 Alfred Benesch & Company  
 123 SE 6th, Suite 200  
 Topeka, Kansas 66603  
 Ph 785.409.6507

**TOPEKA**  
 Public Works  
 ENGINEERING  
 620 SE MADISON St. • 2nd Floor • TOPEKA, KS 66607  
 Phone: (785) 368-3842 • Fax: (785) 368-3881

TOPEKA BLVD  
 IMPROVEMENTS:  
 PROJECT #701038.00

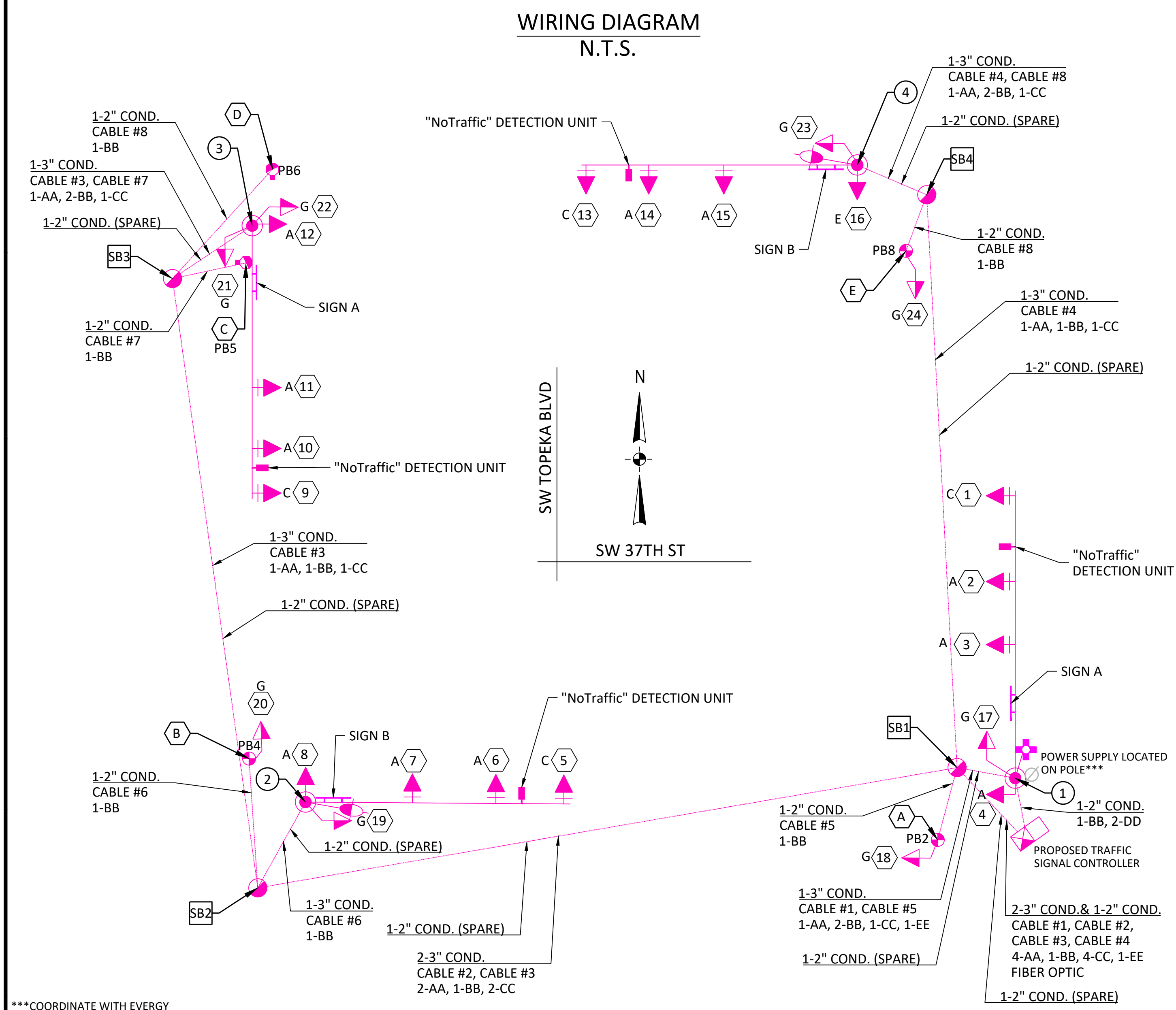
TRAFFIC SIGNAL PLAN  
 SW 29TH ST AND SW TOPEKA BLVD

DATE: APR 2026  
 SHEET: 61 OF 122  
 PROJ.: 701038.00



**SIGNAL CABLE & WIRING LEGEND**

SIGNAL	LIGHTS	CABLE	COND.	CABLE	CONDUCTOR
#1	RED ARROW YEL ARROW GRN ARROW NEUTRAL	CABLE A 5c	RED ORANGE GREEN WHITE	CABLE #1 20c	RED/BLACK STRIPE ORANGE/BLACK STRIPE GREEN/BLACK STRIPE WHITE
#2	RED YELLOW GREEN NEUTRAL	CABLE B 5c	RED ORANGE GREEN WHITE		RED ORANGE GREEN WHITE
#3	SAME AS #2	CABLE C 5c	SAME AS #2		RED ORANGE GREEN WHITE
#4	SAME AS #2	CABLE D 5c	SAME AS #2		RED ORANGE GREEN WHITE
#17 (N-S)	WALK DONT WALK NEUTRAL	CABLE E 5c	GREEN RED WHITE		GREEN/WHITE STRIPE RED/WHITE STRIPE WHITE/BLACK STRIPE
PB1 (E-W)	ON COMMON	CABLE F 4c	BLACK WHITE		BLUE/BLACK STRIPE WHITE/RED STRIPE
#18 (E-W)	WALK DONT WALK NEUTRAL	CABLE G 5c	GREEN RED WHITE	CABLE #5 7c	BLACK/WHITE STRIPE BLACK/WHITE STRIPE WHITE/BLACK STRIPE
PB2 (N-S)	ON COMMON	CABLE H 4c	BLACK WHITE		BLUE WHITE/RED STRIPE
#5	SAME AS #1	CABLE I 5c	SAME AS #1	CABLE #2 20c	SAME AS #1
#6	SAME AS #2	CABLE J 5c	SAME AS #2		SAME AS #2
#7	SAME AS #2	CABLE K 5c	SAME AS #2		SAME AS #2
#8	SAME AS #2	CABLE L 5c	SAME AS #2		SAME AS #2
#19 (E-W)	SAME AS #17	CABLE M 5c	SAME AS #17		SAME AS #17
PB3 (E-W)	SAME AS PB1	CABLE N 4c	SAME AS PB1		SAME AS PB1
#20 (N-S)	SAME AS #18	CABLE O 4c	SAME AS #18	CABLE #6 7c	SAME AS #18
PB4 (N-S)	SAME AS PB2	CABLE P 4c	SAME AS PB2		SAME AS PB2
#9	SAME AS #1	CABLE Q 5c	SAME AS #1	CABLE #3 20c	SAME AS #1
#10	SAME AS #2	CABLE R 5c	SAME AS #2		SAME AS #2
#11	SAME AS #2	CABLE S 5c	SAME AS #2		SAME AS #2
#12	SAME AS #2	CABLE T 5c	SAME AS #2		SAME AS #2
#21 (N-S)	SAME AS #17	CABLE U 5c	SAME AS #17		SAME AS #17
#22 (E-W)	SAME AS #18	CABLE V 5c	SAME AS #18		SAME AS #18
PB5 (E-W)	ON COMMON	CABLE W 4c	BLACK WHITE		BLUE/BLACK STRIPE WHITE/RED STRIPE
PB6 (N-S)	ON COMMON	CABLE X 4c	BLACK WHITE		BLUE WHITE/RED STRIPE
#13	SAME AS #1	CABLE Y 5c	SAME AS #1	CABLE #4 20c	SAME AS #1
#14	SAME AS #2	CABLE Z 5c	SAME AS #2		SAME AS #2
#15	SAME AS #2	CABLE AA 5c	SAME AS #2		SAME AS #2
#16	RED YELLOW GREEN YEL ARROW GRN ARROW NEUTRAL	CABLE Z 7c	ORANGE GREEN BLUE BLACK WHITE		RED ORANGE GREEN RED/GREEN STRIPE BLUE/RED STRIPE WHITE
#23 (E-W)	SAME AS #17	CABLE FF 5c	SAME AS #17		SAME AS #17
PB7 (E-W)	SAME AS PB1	CABLE GG 4c	SAME AS PB1		SAME AS PB1
#24 (N-S)	SAME AS #18	CABLE HH 5c	SAME AS #18	CABLE #9 7c	SAME AS #18
PB8 (N-S)	SAME AS PB2	CABLE II 4c	SAME AS PB2		SAME AS PB2



**WIRING DIAGRAM LEGEND**

AA - LUMINAIRE WIRE #8 AWG 2/c W/ GROUND  
 BB - GROUND WIRE (BARE) #6 AWG 1/c  
 CC - "NoTraffic" DETECTION UNIT  
 DD - POWER WIRE #6 USE 1/c  
 EE - CCTV CAMERA CABLE

**Signal Faces**

**SIGNAL HEAD NOTES:**  
 \* ALL INDICATIONS SHALL BE L.E.D DISPLAYS (12" DIA. LENS), EXCEPT CLAMSHELL PEDESTRIAN DISPLAYS WHICH SHALL BE 18" WIDE X 19" TALL.

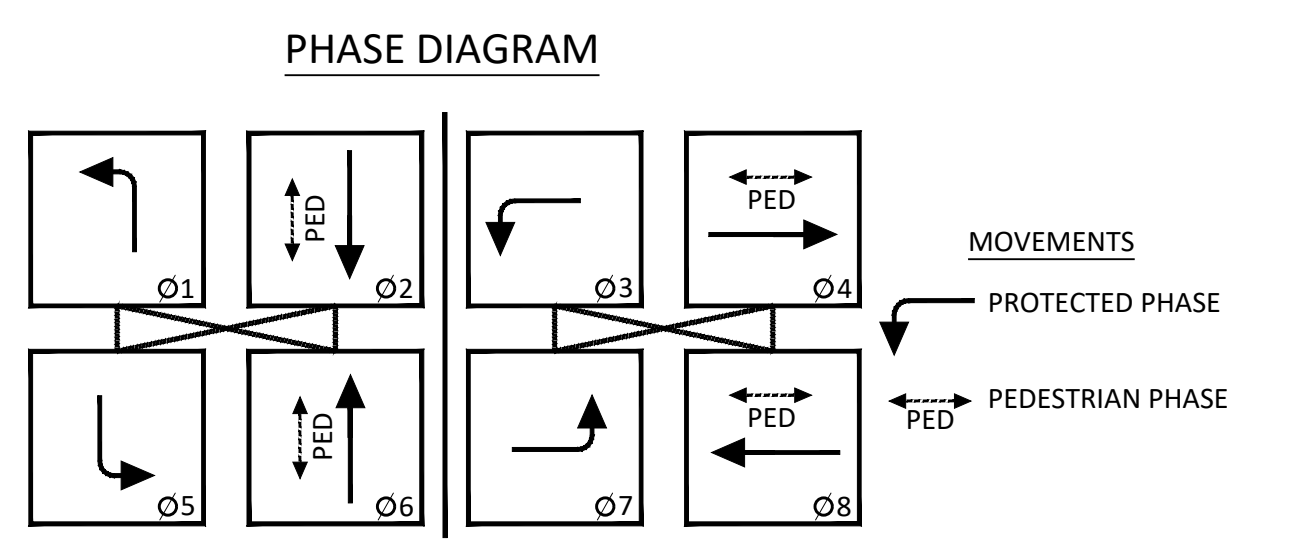
**ALL INDICATIONS SHALL BE L.E.D DISPLAYS (12" DIA. LENS), EXCEPT CLAMSHELL PEDESTRIAN DISPLAYS WHICH SHALL BE 18" WIDE X 19" TALL.**

Note: CONNECT NEW FIBER OPTIC COMMUNICATIONS CABLE TO NEW CONTROLLER, AND CONNECT TO EXISTING FIBER OPTIC CABLE IN EXISTING SERVICE BOX. LEAVE MINIMUM OF 20' EXCESS CABLE COILED IN SERVICE BOX. MINIMIZE TIME FIBER OPTIC COMMUNICATIONS ARE DISRUPTED. THE EXISTING FIBER OPTIC CABLE ALSO SERVES OTHER INTERSECTIONS.

**CONDUIT INSTALLATION**

FROM	TO	PLAN DIST. (')	NO. OF COND.	2" HDPE (')	*ESTIMATED QUANTITY (')	NO. OF COND.	SIZE 3" HDPE OR PVC** (')	*ESTIMATED QUANTITY (')	SIZE
PWR	CONT.	11	1	21	30	1	30**	30**	1-2" HDPE 1-3" PVC**
CONT.	SB 1	17	1	17	25	1	17	25	1-2" HDPE 2-3" HDPE
SB 1	POLE 1	10	1	10	15	1	10	20	1-2" HDPE 2-3" HDPE
SB 1	PB 2	13	1	13	20	0	0	0	1-2" HDPE
SB 1	SB 4	99	1	99	105	1	99	110	1-2" HDPE 2-3" HDPE
SB 4	POLE 4	13	1	13	20	1	13	25	1-2" HDPE 2-3" HDPE
SB 4	PB 8	10	1	10	15	0	0	0	1-2" HDPE
SB 1	SB 2	120	1	120	125	1	120	125	1-2" HDPE 2-3" HDPE
SB 2	POLE 2	17	1	17	25	1	17	30	1-2" HDPE 2-3" HDPE
SB 2	PB 4	22	1	22	30	0	0	0	1-2" HDPE
SB 2	SB 3	106	1	106	115	2	212	225	1-2" HDPE 2-3" HDPE
SB 3	POLE 3	16	1	16	25	1	16	30	1-2" HDPE 2-3" HDPE
SB 3	PB 5	13	1	13	20	0	0	0	1-2" HDPE
SB 3	PB 6	25	1	25	30	0	0	0	1-2" HDPE
TOTAL					600			590	

\* ADDITIONAL 5' ADD ON PER CONDUIT  
 \*\* 3" PVC (SCHEDULE 40)



\*\*\*COORDINATE WITH EVERY

NO.	DATE:	REVISION	BY:	APP'D

EDITED BY: Shoeb Uddin  
 APP'D BY: Kristi Erickson

**TOPEKA Public Works ENGINEERING**

620 SE MADISON STREET - 2nd FLR. • TOPEKA, KS 66607  
 Phone: (785) 368-3842 • Fax: (785) 368-3881

**STANDARD DETAILS DT - 100**

**WIRING DIAGRAM SW 37TH ST AND SW TOPEKA BLVD**

DATE: APR 2026  
 SHEET: 62 OF 122  
 PROJ.: 701038.00



CHART A - SIGNAL SUMMARY					
LOCATION	NO. WAYS	NO. SECTIONS PER FACE	SIGNAL FACE ARRANGEMENT	MOUNTING TYPE	QUANTITY
2, 3, 6, 7, 10, 11, 14, 15	1	3	A	MAST ARM	8
4, 8, 12	1	3	A	SIDE MOUNT	3
1, 5, 9, 13	1	3	C	MAST ARM	4
16	1	4	E	SIDE MOUNT	1
17, 19, 21, 22, 23	1	1	G	SIDE MOUNT	5
18, 20, 24	1	1	G	PB MOUNT	3

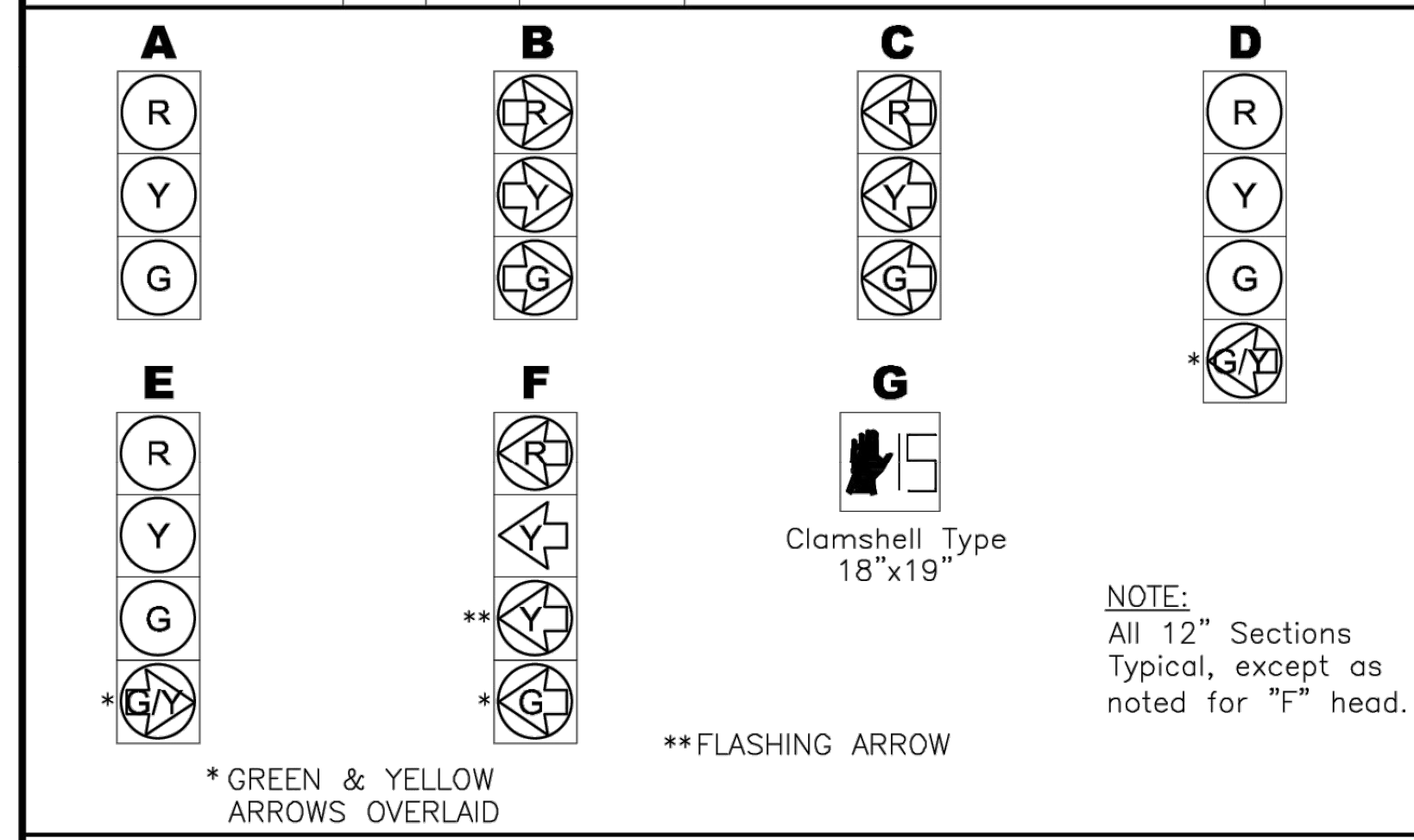
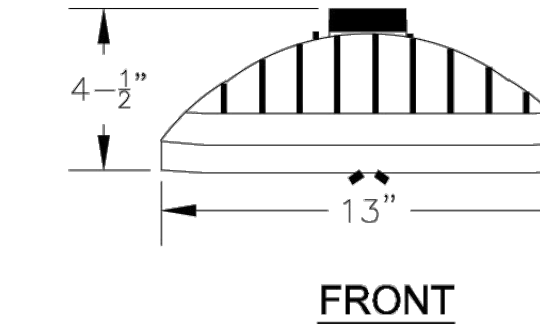
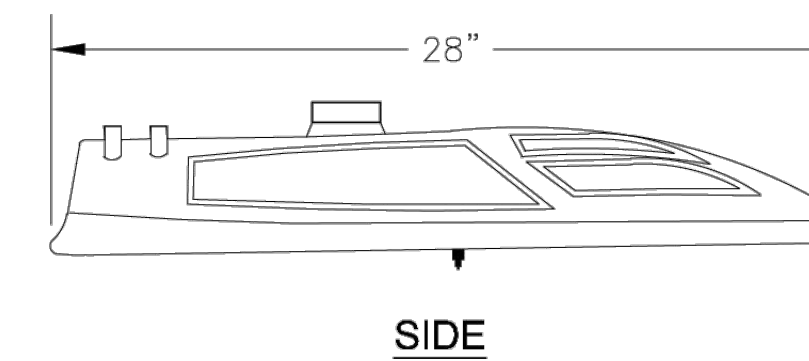


CHART B - TRAFFIC SIGNAL POLES					
POLE NO.	ARM SIZE	NO. OF SIGNALS ON ARM	SIGNAL SPACING	LUMINAIRE SUPPORT ARM SIZE	LUMINAIRE MOUNTING HEIGHT
POLE #1	50'	3	49' - 34' - 23'	NO LUM ARM	35' (STD)
POLE #2	45'	3	44' - 33' - 18'	12' (STD)	35' (STD)
POLE #3	46'	3	46' - 38' - 28'		20'-6" (STD)
POLE #4	48'	3	47' - 36' - 23'	12' (STD)	35' (STD)

SERVICE & JUNCTION BOX LOCATIONS			
STATION	DISTANCE-SIDE	STATION	DISTANCE-SIDE
19+41.73	70.05' RT		
19+24.12	50.47' LT		
20+28.84	62.63' LT		
20+40.44	67.11' RT		

BILL OF MATERIALS		
ITEM	UNIT	QUAN
332 PAD MOUNTED CABINET	EA	
333SD-ITS PAD MOUNTED CABINET w/UPS AND AUXILLARY FILE	EA	1
(SHA 1210) LIGHTING ARRESTER	EA	1
2070 ATC CONTROLLER WITH 1C CPU MODULE AND EOS SOFTWARE	EA	1
CONFLICT MONITOR (EDI 2010 ECL) W/ ETHERNET COMMUNICATION & CONNECTOR	EA	1
LOAD SWITCH	EA	8
FLASHER UNIT	EA	2
FLASH TRANSFER RELAY	EA	4
2 CHANNEL DC ISOLATION MODULE	EA	3
TRAFFIC SIGNAL HEAD (see chart A) W/MOUNTING HDW.	EA	24
LED RED INDICATION	EA	12
LED YELLOW INDICATION	EA	12
LED GREEN INDICATION	EA	12
LED RED ARROW INDICATION	EA	4
LED GREEN ARROW, YELLOW ARROW INDICATION	EA	9
LED RED HAND & WHITE WALK (PERSON) SYMBOL & HOUSING	EA	8
TRAFFIC SIGNAL POLE (see chart B) STEEL	EA	
62" ALUMINUM PEDESTAL POLE (FOR PUSHBUTTON STATION)	EA	
62" POWDER COATED STEEL PEDESTAL POLE (FOR PUSHBUTTON STATION)	EA	2
10' ALUMINUM PEDESTAL POLE	EA	
10' POWDER COATED STEEL PEDESTAL POLE	EA	3
15' ALUMINUM PEDESTAL POLE	EA	
15' POWDER COATED STEEL PEDESTAL POLE	EA	
CONCRETE CONTROLLER PAD	EA	1
30"x30" CONCRETE FOOTING - PEDESTAL BASE	EA	5
42"x13' CONCRETE FOOTING - POLE BASE	EA	
42"x15' CONCRETE FOOTING - POLE BASE	EA	4
BACK PLATE 5in. 3 SECTION	EA	
RETROREFLECTIVE BACK PLATE 5in. 3 SECTION	EA	12
BACK PLATE 5in. 4 SECTION	EA	
RETROREFLECTIVE BACK PLATE 5in. 4 SECTION	EA	
TERMINAL BLOCK (SUPPLIED BY CONTRACTOR)	EA	4
JUNCTION BOX	EA	
SERVICE BOX WITH STEEL LID	EA	4
WEATHER PROOF CIRCUIT BREAKER BOX	EA	1
CIRCUIT BREAKER FOR SIGNAL (50 AMP)	EA	1
CIRCUIT BREAKER FOR LUMINAIRES (20AMP)	EA	1
SET OF POLYCARBONATE SIDE MOUNT BRACKETS	EA	AS REQ
GROUND ROD & CLAMP - 3/8"x8' COPPER CLAD	EA	10
3/4 STAINLESS STEEL BANDING & BUCKLES	EA	AS REQ
MULTI-CONDUCTOR CABLE #14 AWG 5/c	LF	824
MULTI-CONDUCTOR CABLE #14 AWG 7/c	LF	163
MULTI-CONDUCTOR CABLE #14 AWG 20/c	LF	645
LED LUMINAIRE	EA	AS REQ
LUMINAIRE WIRE #8 AWG 2/c W/Ground	LF	976
CONDUIT CLAMP	EA	AS REQ
CONDUIT ELBOW 90 deg.	EA	AS REQ
CONDUIT 1.5 in. GALVANIZED CONDUIT - METER TO CONTROLLER	LF	
CONDUIT 3" PVC (SCHEDULE 40)	LF	30
CONDUIT 2 in. HDPE	LF	600
CONDUIT 3 in. HDPE	LF	590
POWER WIRE #6 USE	LF	52
POWER WIRE (BARE) #6 AWG 1/c (GROUND)	LF	694
PUSH BUTTON STATION (SIGN, BUTTON, AUDIBLE)	EA	8
PUSHBUTTON WIRE #14 AWG 4/c	LF	48
ALUMINUM CONDUIT MARKERS	EA	8
PULL STRING (IN MAIN CONDUIT RUNS)	LF	368
"NoTraffic" DETECTION CABLE #14awg 3/c	LF	952
LED STREET NAME SIGN AND MOUNTING BRACKETS	EA	4
ALUMINUM STREET NAME SIGN SIGN AND MOUNTING BRACKETS	EA	
"NoTraffic" DETECTION SYSTEM	EA	1
MOUNTING KIT FOR CAMERA	EA	1
AXIS CAMERA Q6355-LE AND Q6300-E	EA	1
PTZ CAMERA CABLE (1000' ROLL)	EA	1
PROJECT SIGN - TYPE A (SEE NOTES)	EA	1
DYMEC KY-3170EMx ETHERNET SWITCH w/ 2 SINGLE MODE LC FIBER OPTIC GBIC CONNECTORS	EA	1
BLACK SEMI GLOSS FINISH OPTION	AS REQ	YES
GALVANIZED FINISH OPTION	AS REQ	NO



NOTES:

- Shall have a white light color temperature minimum of 4000K - 70CRI.
- Shall include standard AEL lineman-friendly features such as tool-less entry, 3 station terminal block and quick disconnects.
- Shall have a bubble level located inside the electrical compartment for easy leveling at installation.
- Shall have a 4 bolt clamping mechanism providing 3G vibration rating per ANSI C136.
- Shall have premium solid state locking-style photocontrol - PCSS (10 year rated life).
- Shall have onboard adjustable output module that allows the light output and input wattage to be modified to meet site specific requirements.

LED LUMINAIRE

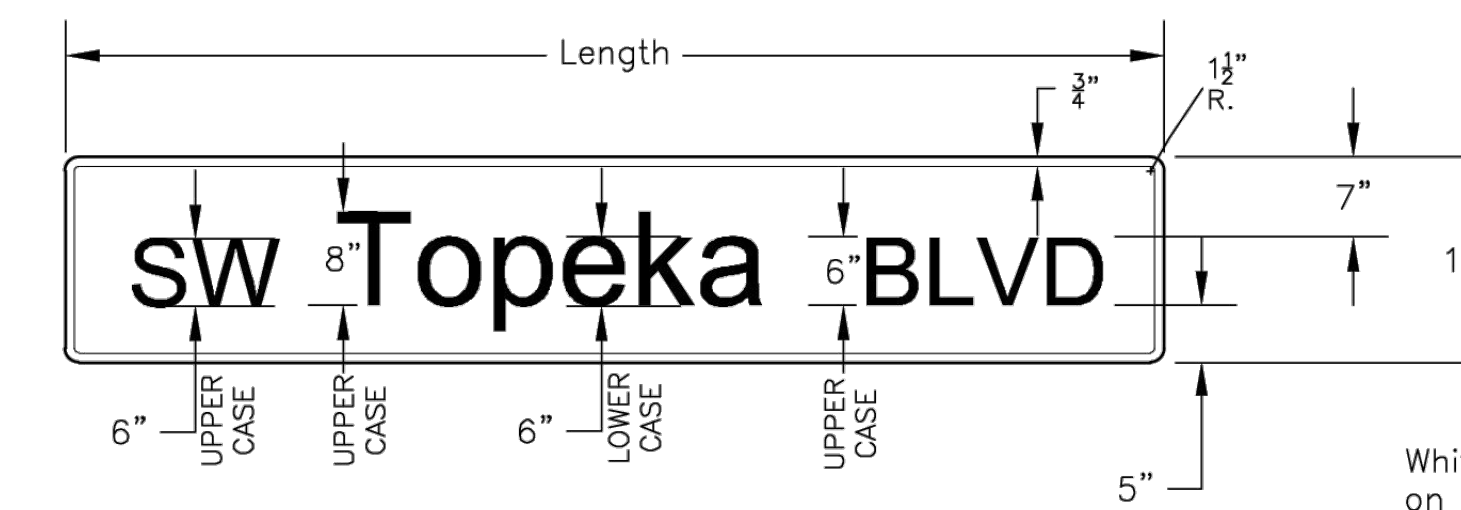
NOTES:

- The Contractor shall supply and install all necessary materials and equipment for the complete and satisfactory operation of the traffic signal system whether materials and equipment are specifically mentioned or not.
- The contractor shall be responsible for the complete wiring of intersection. All field wires shall be labeled.
- PROJECT SIGN TYPE A: The Contractor will be required to install one type A sign at the intersection. The contractor may obtain the sign from a supplier (pre-approved by the City) for a set price. The bid will include the cost of material, installation & maintenance. See city detail sheet DT-019 for mounting details.
- The Contractor connecting the power shall be a licensed electrical contractor of Topeka and shall obtain a "WILL CALL PERMIT" from the City of Topeka Building Inspection division prior to construction. A copy of the "WILL CALL PERMIT" shall be forwarded to the Engineer by the contractor. The Building Inspection Division may be reached at 368-3905. Request for electrical inspection shall be made one day before it is needed. A licensed journeyman electrician is required to perform the actual service connection and is required to be on the job site at the time of field inspection. An Excavation permit will be required from the Permit Section at 368-3704.
- The established address for this project (and controller) is: \_\_\_\_\_

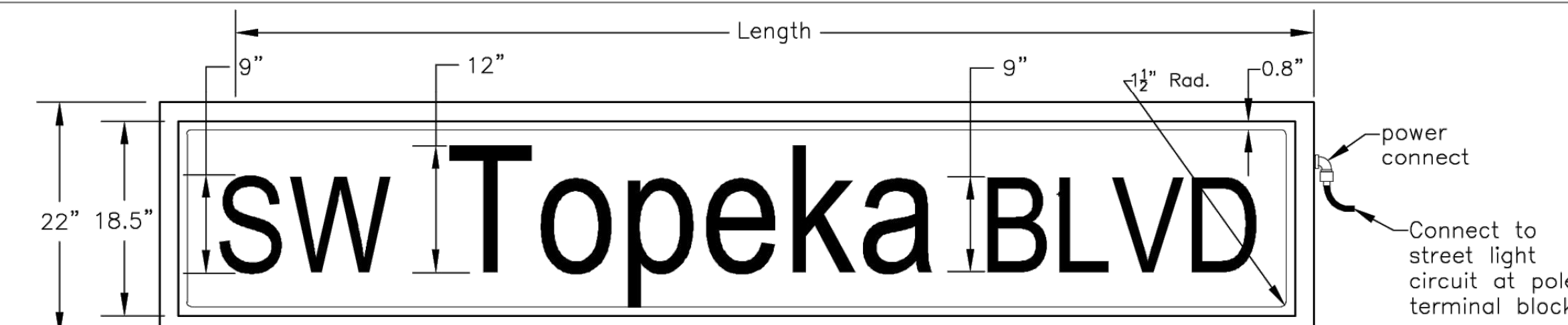
MAST ARM MOUNTED BILL OF STREET NAME SIGNS

SIGN	LEGEND	LED or ALUMINUM	QUANTITY
A	SW TOPEKA BLVD	LED	2
B	SW 37TH ST	LED	2

Length of sign to be determined by manufacturer and approved by Engineer.



ALUMINUM STREET NAME SIGN MAST ARM MOUNTED



LED STREET NAME SIGN

BILL OF MATERIALS SYMBOLS

- ☆ = Cable shall be continuous from each camera to the controller.
- + = Supplied by the city, installed by the contractor assisted by the supplier.
- ⊕ = Supplied and installed by the City of Topeka.
- = Pulled in after signal wire has been pulled.
- ⊕⊕ = When Black Semi Gloss is indicated, all exposed surfaces of the traffic signal and it's appurtenances, including cabinets, brackets, banding, buckles, back-plates, sign backs, and fixtures shall have a finish color of BLACK (semi-gloss) Federal Standard 595 Color #27038 or approved equivalent. If fixtures or appurtenances such as detection cameras or radios are not standardly available with a black finish, they may be supplied with the manufacture's standard finish and delivered to the City for painting prior to installation. Poles, pedestals & cabinets shall be powder coated.

6	10/30/20	BOM Revised	SU	KRE
5	8/10/18	Added connecting the power to lwr note 4	DHS	LGV
4	8/6/18	Changed Chart B heading to ARM SIZE	DHS	LGV
3	02/26/18	Make change to CHART B column heading	KAP	TLC
2	01/22/18	Add pole finish note	KAP	TLC
1	10/5/17	Updated Standard	DHS	TLC
NO.	DATE:	REVISION	BY:	APP'D

EDITED BY: Shoeb Uddin  
 APP'D BY: Kristi Erickson



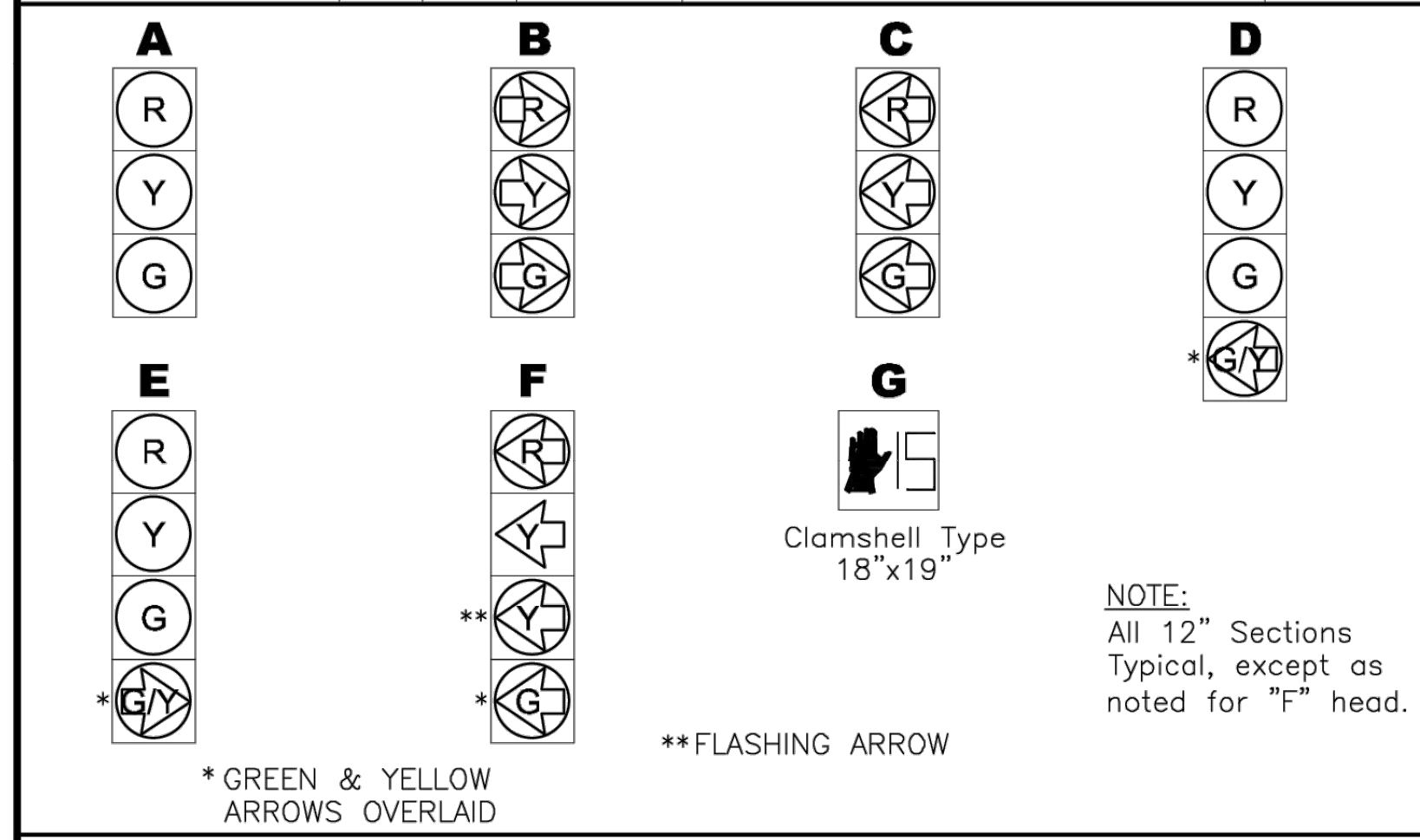
STANDARD DETAILS  
 DT - 101  
 37TH AND TOPEKA

BILL OF MATERIALS,  
 STREET NAME SIGNS,  
 AND LED LUMINAIRE  
 DETAILS

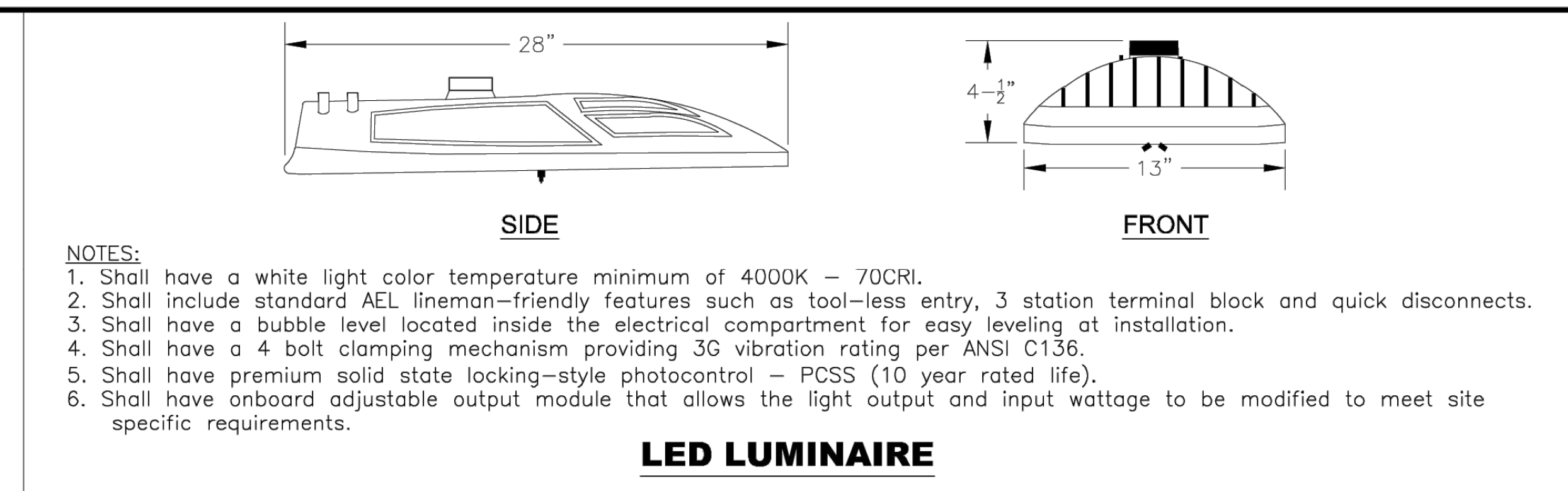
DATE: APR 2026  
 SHEET: 64 OF 122  
 PROJ.: 701038.00



CHART A - SIGNAL SUMMARY					
LOCATION	NO. WAYS	NO. SECTIONS PER FACE	SIGNAL FACE ARRANGEMENT	MOUNTING TYPE	QUANTITY
2, 3, 6, 7, 10, 11, 14, 15	1	3	A	MAST ARM	8
8, 16	1	3	A	SIDE MOUNT	2
1, 5, 9, 13	1	3	C	MAST ARM	4
4, 12	1	4	E	SIDE MOUNT	2
17, 18, 19, 20, 21, 22, 23	1	1	G	SIDE MOUNT	7
24	1	1	G	PB MOUNT	1



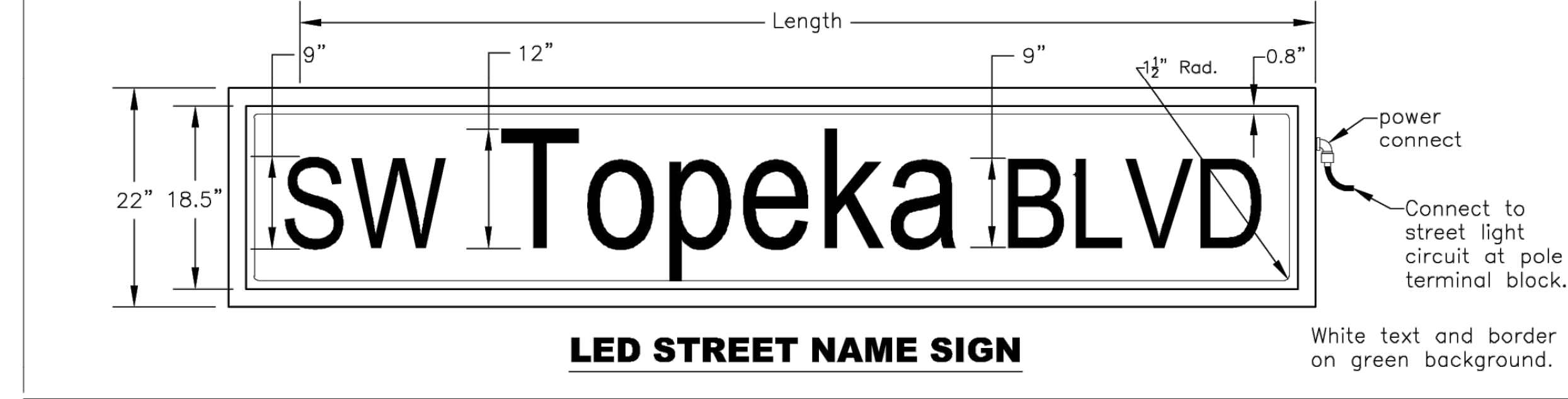
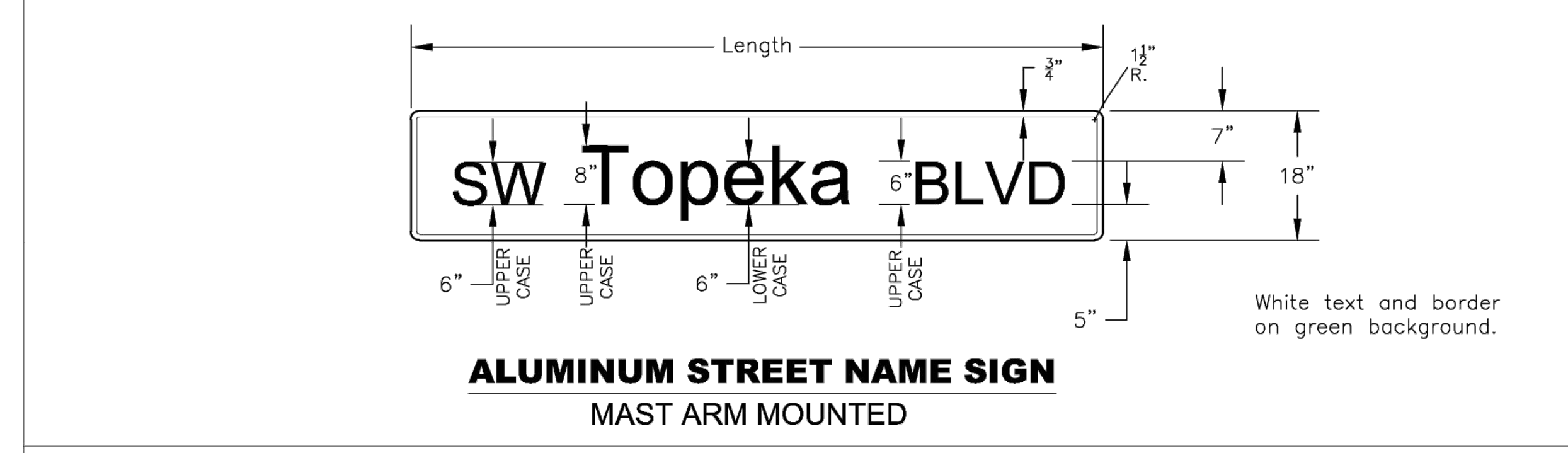
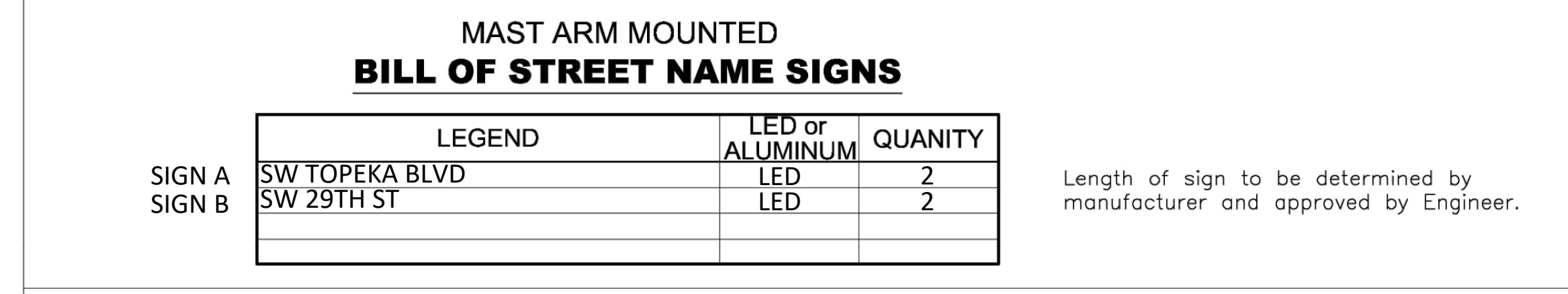
BILL OF MATERIALS		
ITEM	UNIT	QUAN
332 PAD MOUNTED CABINET	EA	
333SD-ITS PAD MOUNTED CABINET w/UPS AND AUXILLARY FILE	EA	1
(SHA 1210) LIGHTING ARRESTER	EA	1
2070 ATC CONTROLLER WITH 1C CPU MODULE AND EOS SOFTWARE	EA	1
CONFLICT MONITOR (EDI 2010 ECL) W/ ETHERNET COMMUNICATION & CONNECTOR	EA	1
LOAD SWITCH	EA	8
FLASHER UNIT	EA	2
FLASH TRANSFER RELAY	EA	3
2 CHANNEL DC ISOLATION MODULE	EA	4
TRAFFIC SIGNAL HEAD (see chart A) W/MOUNTING HDW.	EA	23
LED RED INDICATION	EA	12
LED YELLOW INDICATION	EA	12
LED GREEN INDICATION	EA	12
LED RED ARROW INDICATION	EA	4
LED GREEN ARROW, YELLOW ARROW INDICATION	EA	10
LED RED HAND & WHITE WALK (PERSON) SYMBOL & HOUSING	EA	8
TRAFFIC SIGNAL POLE (see chart B) STEEL	EA	4
62" ALUMINUM PEDESTAL POLE (FOR PUSHBUTTON STATION)	EA	
62" POWDER COATED STEEL PEDESTAL POLE (FOR PUSHBUTTON STATION)	EA	5
10' ALUMINUM PEDESTAL POLE	EA	
10' POWDER COATED STEEL PEDESTAL POLE	EA	1
15' ALUMINUM PEDESTAL POLE	EA	
15' POWDER COATED STEEL PEDESTAL POLE	EA	
CONCRETE CONTROLLER PAD	EA	1
30"x30" CONCRETE FOOTING - PEDESTAL BASE	EA	6
42"x13' CONCRETE FOOTING - POLE BASE	EA	
42"x15' CONCRETE FOOTING - POLE BASE	EA	4
BACK PLATE 5in. 3 SECTION	EA	
RETROREFLECTIVE BACK PLATE 5in. 3 SECTION	EA	12
BACK PLATE 5in. 4 SECTION	EA	
RETROREFLECTIVE BACK PLATE 5in. 4 SECTION	EA	
TERMINAL BLOCK (SUPPLIED BY CONTRACTOR)	EA	4
JUNCTION BOX	EA	
SERVICE BOX WITH STEEL LID	EA	4
WEATHER PROOF CIRCUIT BREAKER BOX	EA	1
CIRCUIT BREAKER FOR SIGNAL (50 AMP)	EA	1
CIRCUIT BREAKER FOR LUMINAIRES (20AMP)	EA	1
SET OF POLYCARBONATE SIDE MOUNT BRACKETS	EA	AS REQ
GROUND ROD & CLAMP - 3/8"x8' COPPER CLAD	EA	10
3/4 STAINLESS STEEL BANDING & BUCKLES	EA	AS REQ
MULTI-CONDUCTOR CABLE #14 AWG 5/c	LF	864
MULTI-CONDUCTOR CABLE #14 AWG 7/c	LF	73
MULTI-CONDUCTOR CABLE #14 AWG 20/c	LF	583
LED LUMINAIRE	EA	AS REQ
LUMINAIRE WIRE #8 AWG 2/c W/Ground	LF	847
CONDUIT CLAMP	EA	AS REQ
CONDUIT ELBOW 90 deg.	EA	AS REQ
CONDUIT 1.5 in. GALVANIZED CONDUIT - METER TO CONTROLLER	LF	
CONDUIT 3" PVC (SCHEDULE 40)	LF	30
CONDUIT 2 in. HDPE	LF	600
CONDUIT 3 in. HDPE	LF	555
POWER WIRE #6 USE	LF	60
POWER WIRE (BARE) #6 AWG 1/c (GROUND)	LF	600
PUSH BUTTON STATION (SIGN, BUTTON, AUDIBLE)	EA	8
PUSHBUTTON WIRE #14 AWG 4/c	LF	48
ALUMINUM CONDUIT MARKERS	EA	8
PULL STRING (IN MAIN CONDUIT RUNS)	LF	383
"NoTraffic" DETECTION CABLE #14awg 3/c	LF	914
LED STREET NAME SIGN AND MOUNTING BRACKETS	EA	4
ALUMINUM STREET NAME SIGN AND MOUNTING BRACKETS	EA	
"NoTraffic" DETECTION SYSTEM	EA	1
MOUNTING KIT FOR CAMERA	EA	1
AXIS CAMERA Q6355-LE AND Q6300-E	EA	1
PTZ CAMERA CABLE (1000' ROLL)	EA	1
PROJECT SIGN - TYPE A (SEE NOTES)	EA	
DYMEC KY-3170EMx ETHERNET SWITCH w/ 2 SINGLE MODE LC FIBER OPTIC GBIC CONNECTORS	EA	1
BLACK SEMI GLOSS FINISH OPTION	AS REQ	YES
GALVANIZED FINISH OPTION	AS REQ	NO



**LED LUMINAIRE**

NOTES:

- The Contractor shall supply and install all necessary materials and equipment for the complete and satisfactory operation of the traffic signal system whether materials and equipment are specifically mentioned or not.
- The contractor shall be responsible for the complete wiring of intersection. All field wires shall be labeled.
- PROJECT SIGN TYPE A: The Contractor will be required to install one type A sign at the intersection. The contractor may obtain the sign from a supplier (pre-approved by the City) for a set price. The bid will include the cost of material, installation & maintenance. See city detail sheet DT-019 for mounting details.
- The Contractor connecting the power shall be a licensed electrical contractor of Topeka and shall obtain a "WILL CALL PERMIT" from the City of Topeka Building Inspection division prior to construction. A copy of the "WILL CALL PERMIT" shall be forwarded to the Engineer by the contractor. The Building Inspection Division may be reached at 368-3905. Request for electrical inspection shall be made one day before it is needed. A licensed journeyman electrician is required to perform the actual service connection and is required to be on the job site at the time of field inspection. An Excavation permit will be required from the Permit Section at 368-3704.
- The established address for this project (and controller) is: \_\_\_\_\_



**BILL OF MATERIALS SYMBOLS**

☆ = Cable shall be continuous from each camera to the controller.

+ + = Supplied by the city, installed by the contractor assisted by the supplier.

⊗ = Supplied and installed by the City of Topeka.

● = Pulled in after signal wire has been pulled.

⊗ ⊗ = When Black Semi Gloss is indicated, all exposed surfaces of the traffic signal and it's appurtenances, including cabinets, brackets, banding, buckles, back-plates, sign backs, and fixtures shall have a finish color of BLACK (semi-gloss) Federal Standard 595 Color #27038 or approved equivalent. If fixtures or appurtenances such as detection cameras or radios are not standardly available with a black finish, they may be supplied with the manufacture's standard finish and delivered to the City for painting prior to installation. Poles, pedestals & cabinets shall be powder coated.

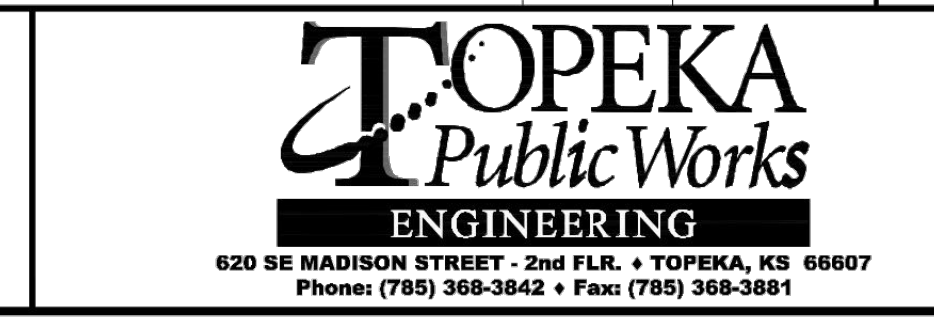
CHART B - TRAFFIC SIGNAL POLES					
POLE NO.	ARM SIZE	NO. OF SIGNALS ON ARM	SIGNAL SPACING	LUMINAIRE SUPPORT ARM SIZE	LUMINAIRE MOUNTING HEIGHT
POLE #1	55'	3	54' - 36' - 22'	12' (STD)	35' (STD)
POLE #2	54'	3	53' - 42' - 30'	12' (STD)	35' (STD)
POLE #3	52'	3	51' - 34' - 21'	12' (STD)	35' (STD)
POLE #4	48'	3	47' - 36' - 25'		20'-6" (STD)

SERVICE & JUNCTION BOX LOCATIONS			
STATION	DISTANCE-SIDE	STATION	DISTANCE-SIDE
73+53.63	59.1' RT		
72+54.83	75.1' RT		
72+47.14	45.9' LT		
73+46.33	56.4' LT		

NO.	DATE	REVISION	BY	APP'D
6	10/30/20	BOM Revised	SU	KRE
5	8/10/18	Added connecting the power to lwr note 4	DHS	LGV
4	8/6/18	Changed Chart B heading to ARM SIZE	DHS	LGV
3	02/26/18	Make change to CHART B column heading	KAP	TLC
2	01/22/18	Add pole finish note	KAP	TLC
1	10/5/17	Updated Standard	DHS	TLC

EDITED BY: Shoeb Uddin

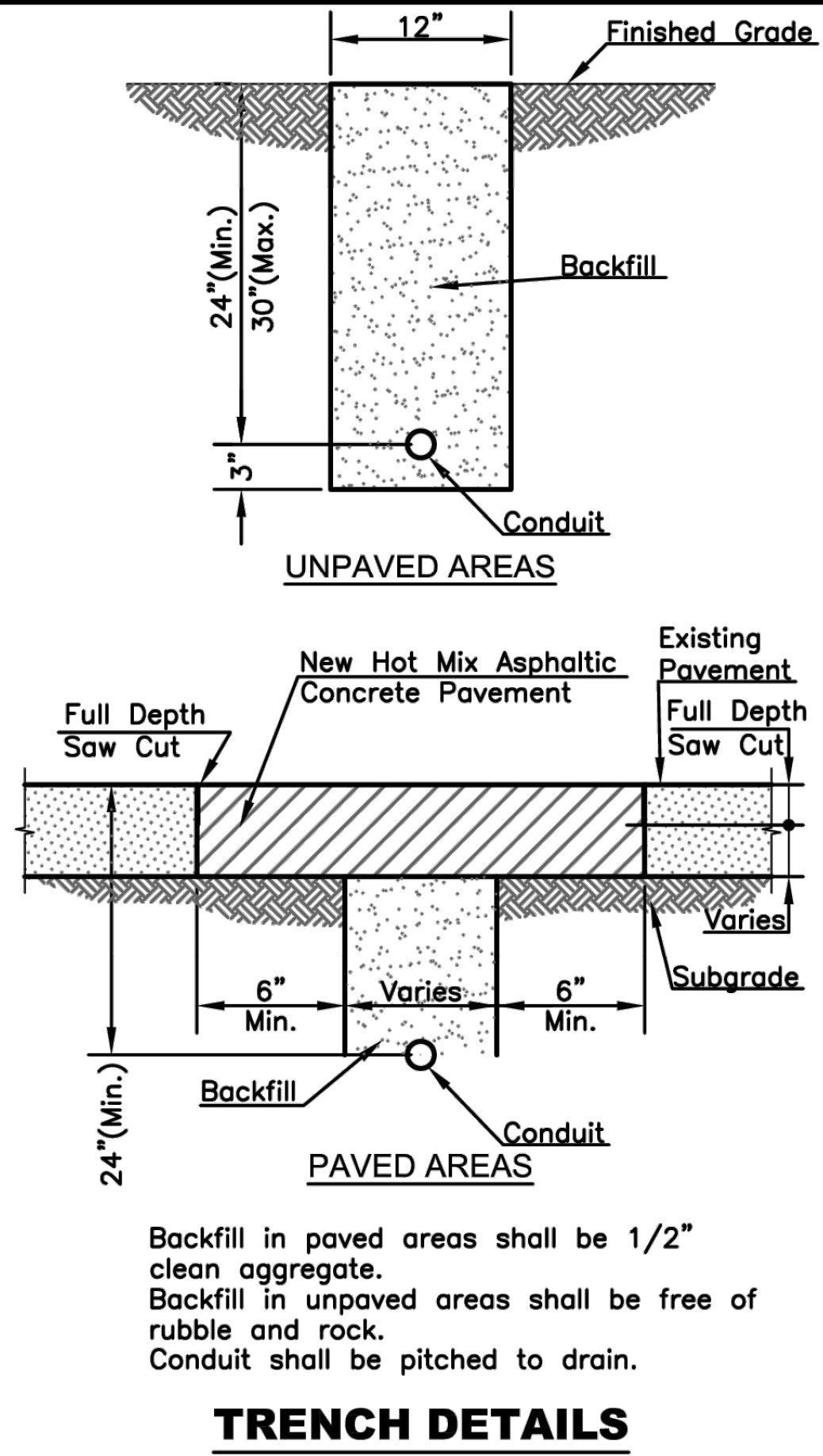
APP'D BY: Kristi Erickson



**STANDARD DETAILS**  
DT - 101  
29TH AND TOPEKA

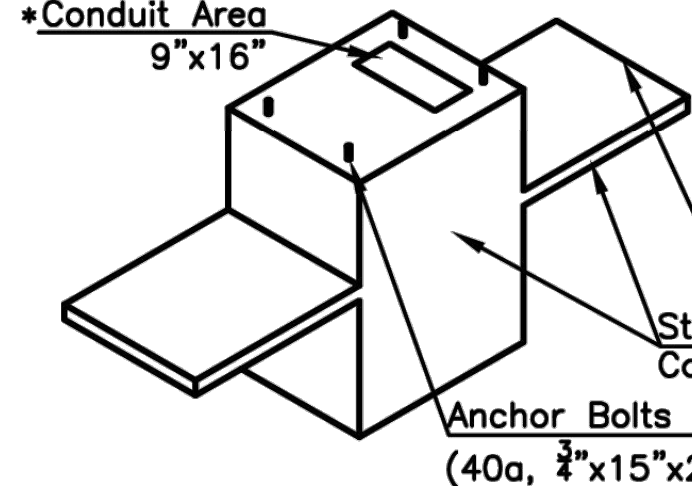
**BILL OF MATERIALS, STREET NAME SIGNS, AND LED LUMINAIRE DETAILS**

DATE: APR 2026  
SHEET: 66 OF 122  
PROJ.: 701038.00

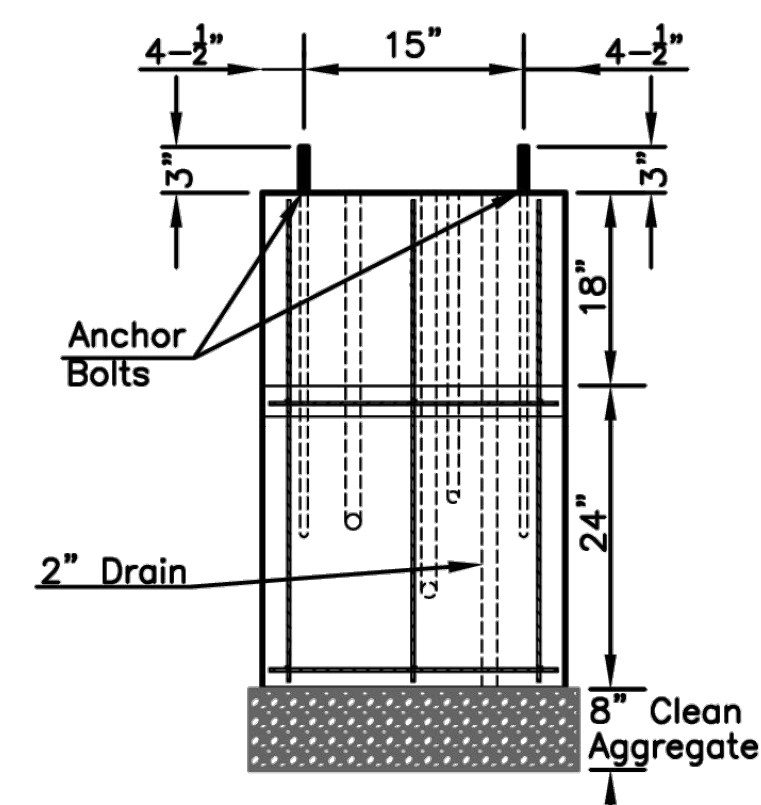


**TRENCH DETAILS**

\*Contractor shall contact City Traffic Operations for determination of Conduit Area location prior to construction.

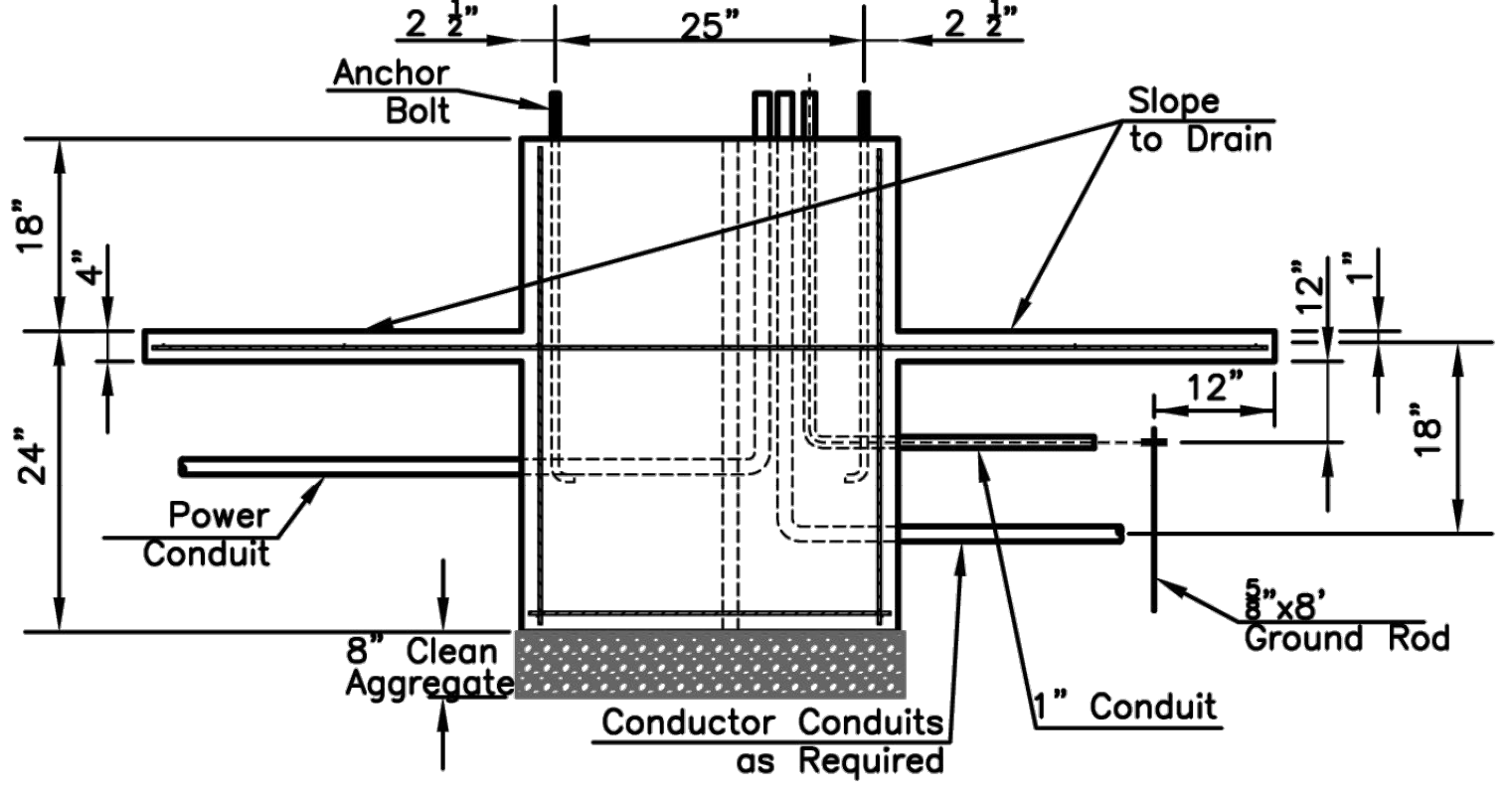
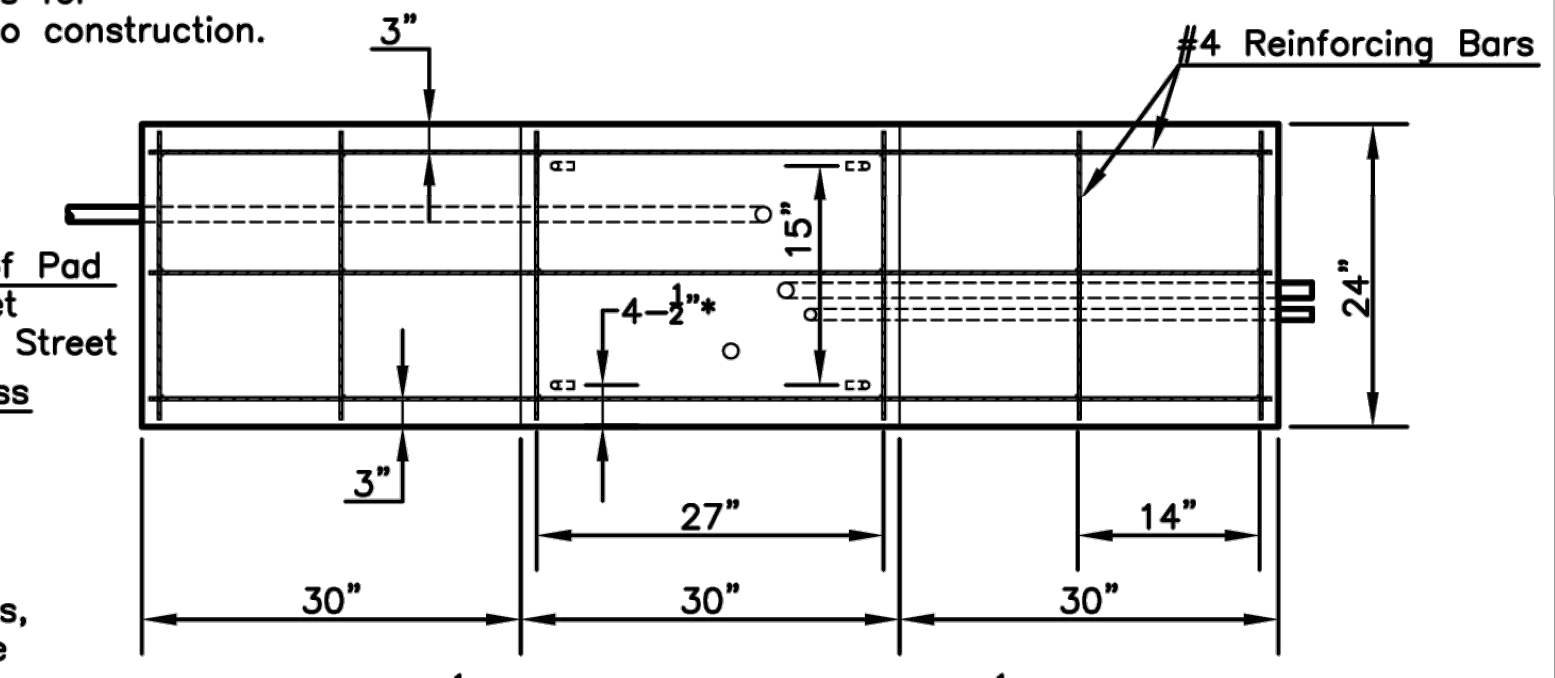


All conduit laying beneath streets, highways, alleys, driveways, and parking lots shall be a minimum of 24" below surface.

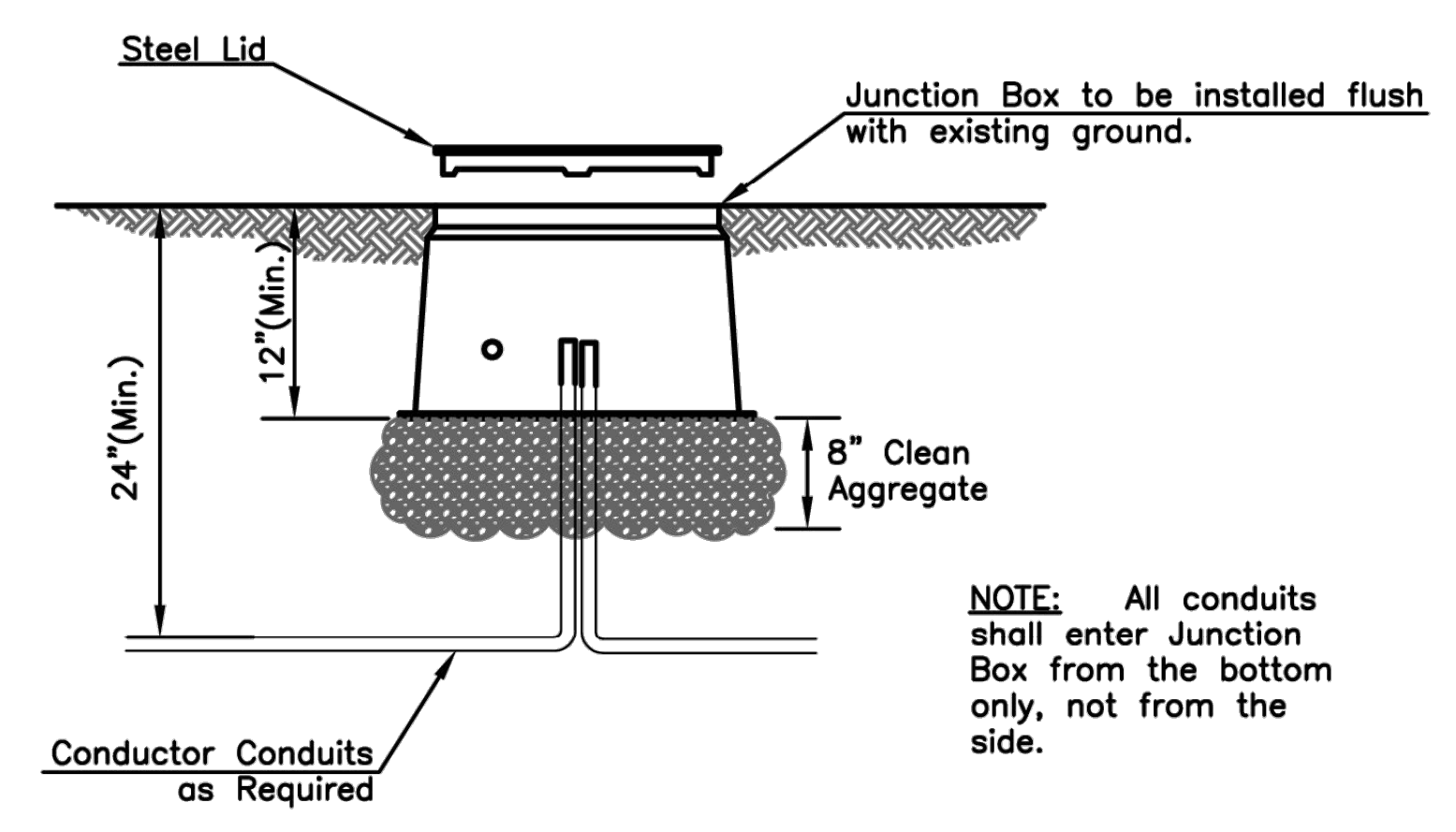


All conduits and anchor bolts for Controller Pads shall be rigidly installed before concrete is placed. Anchor bolts shall be spaced by means of a template, the center of which shall coincide with the center of the base.

**332 CONTROLLER PAD DETAIL**

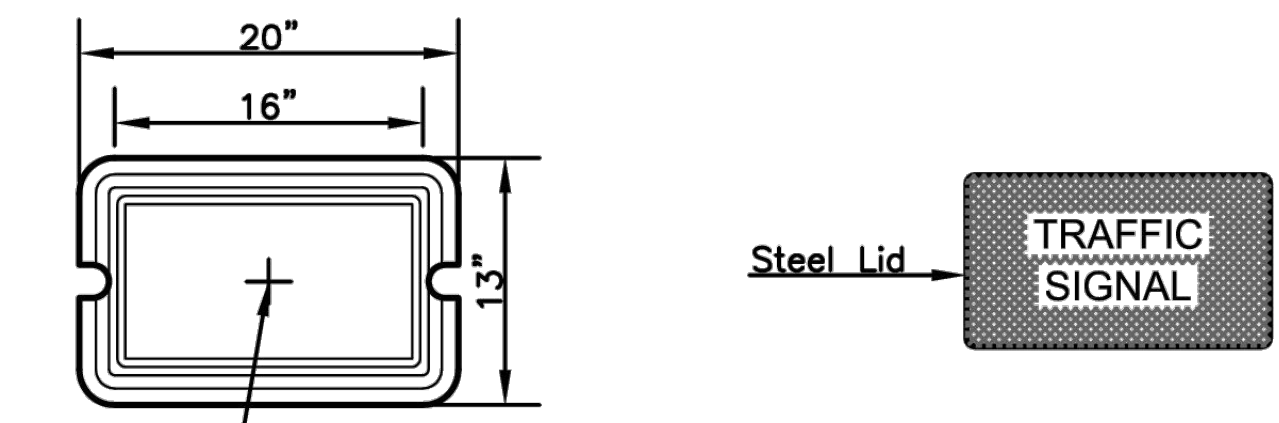


NOTE: At the location where power connection is made, two (2) ground rods, a minimum of six (6) feet apart are required. Ground rods shall be 5/8" x 8'.



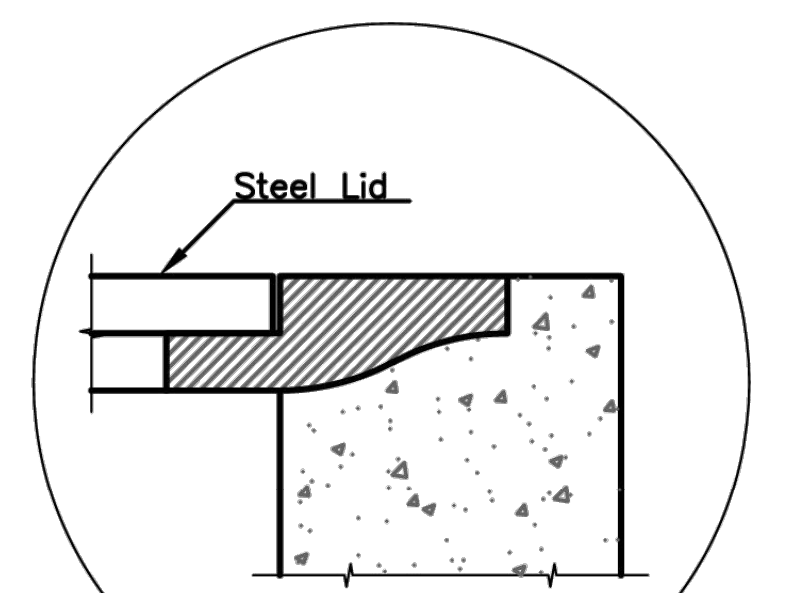
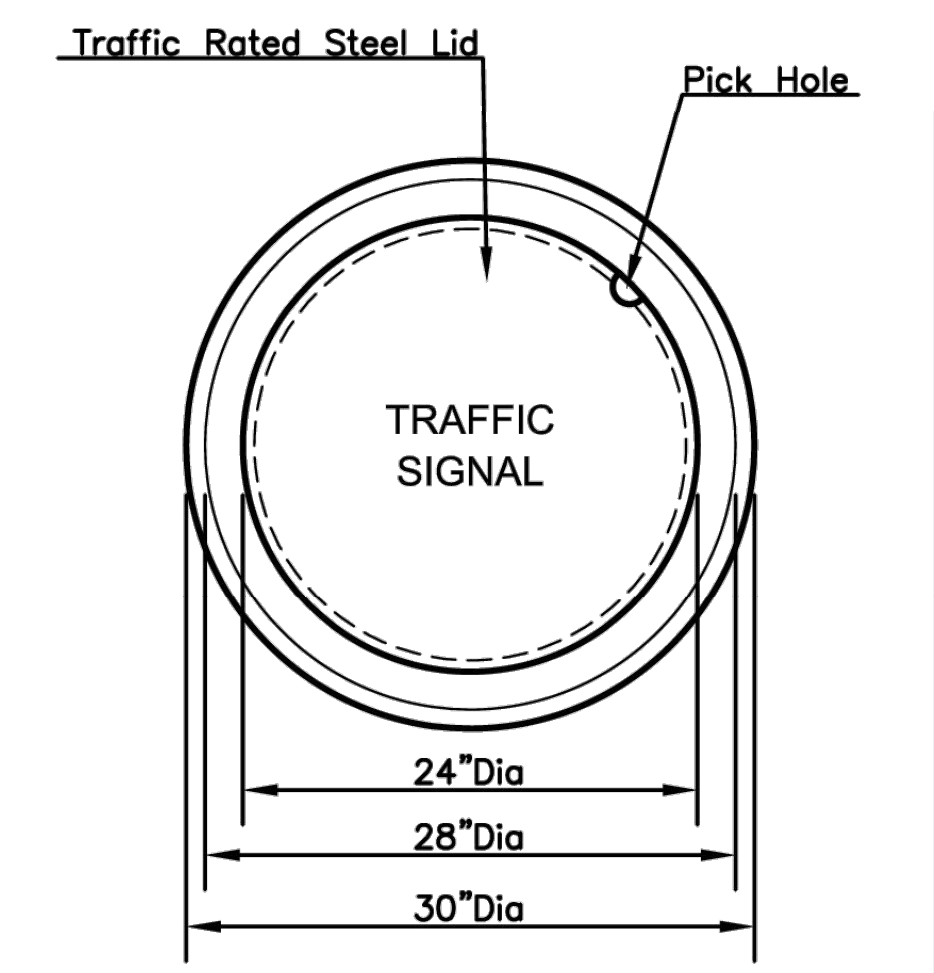
NOTE: All conduits shall enter Junction Box from the bottom only, not from the side.

NOTE: Concrete Junction Box to be used. Other designs of similar size and shape are acceptable alternates subject to approval by the Engineer.



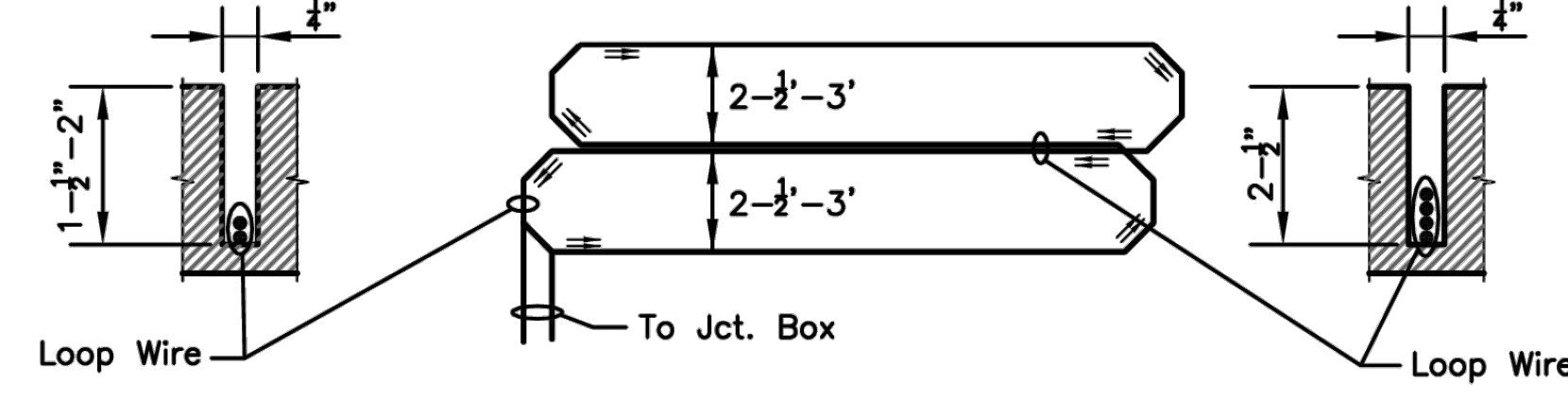
Station & Offset as shown on plans

**JUNCTION BOX DETAILS**

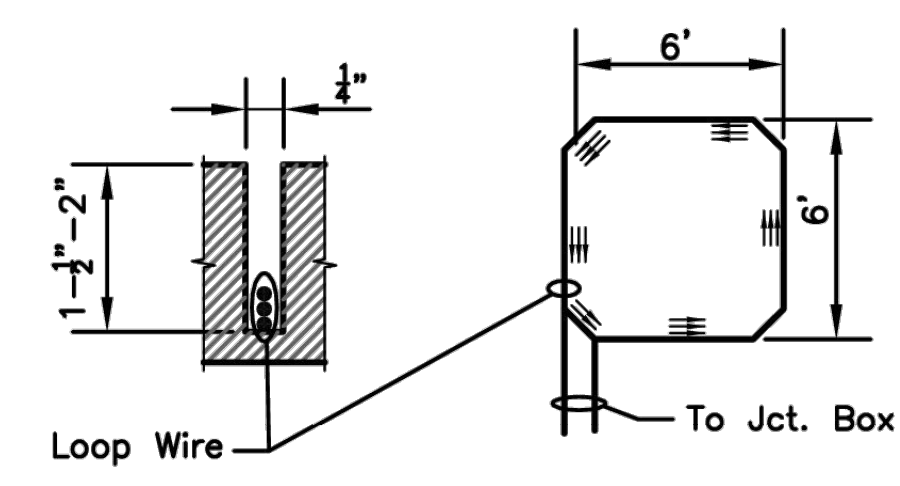


When crossing an expansion joint in concrete with loop wire, leave slack in wire to allow for expansion and contraction.

Loop wires to be one continuous wire, each partial loop is to be two turns. All loops are to be wound in the same direction, with start and end clearly marked at junction or service box.



Loops are to be one continuous wire placed in three turns. All loops are to be wound in the same direction, with start and end clearly marked at junction or service box.

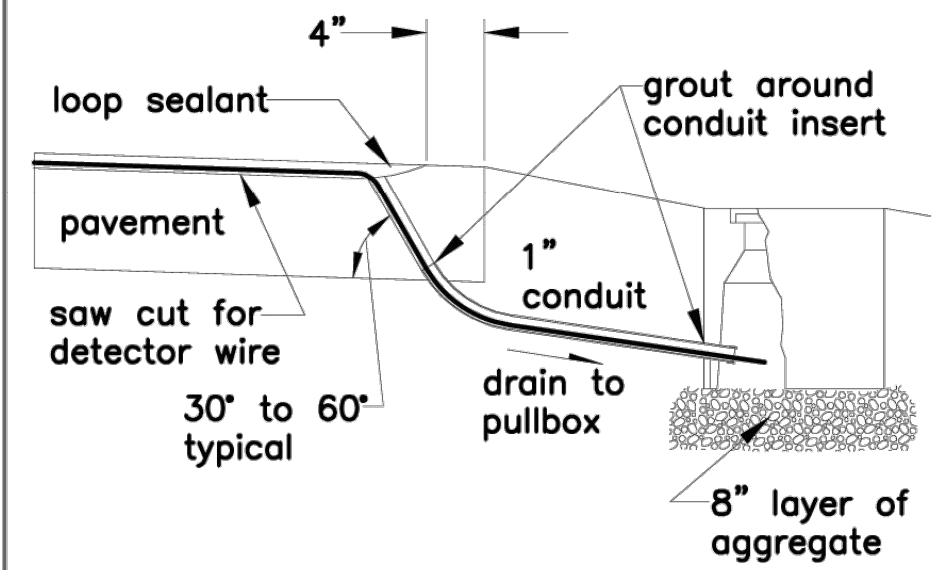


Slots in pavement for loops are to be cut 1/4" wide and 1 1/2"-2" deep, 2 1/2" deep for quadrapole center cuts. Slots are to be filled with an approved asphalt sealer or an approved elastic epoxy sealant to within 1/8" of pavement surface.

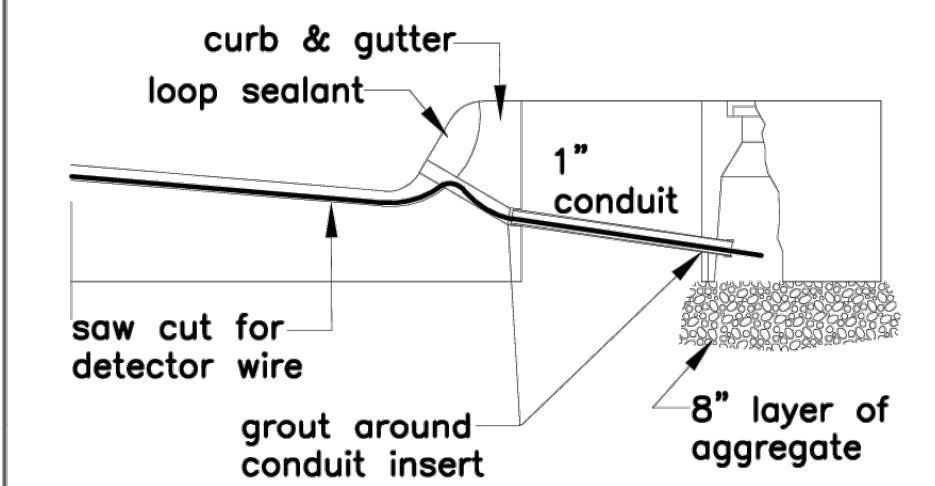
Detector cable and loops shall be joined by using a soldered or approved metered crimp type connector. Detector cable and loops shall be of continuous run with no splices. All connections shall be sealed with 3M 3570 connector sealing packs or approved equal.

All leads for individual loops are to be kept separate.

**LOOP DETECTOR DETAILS**



**WITHOUT CURB & GUTTER**

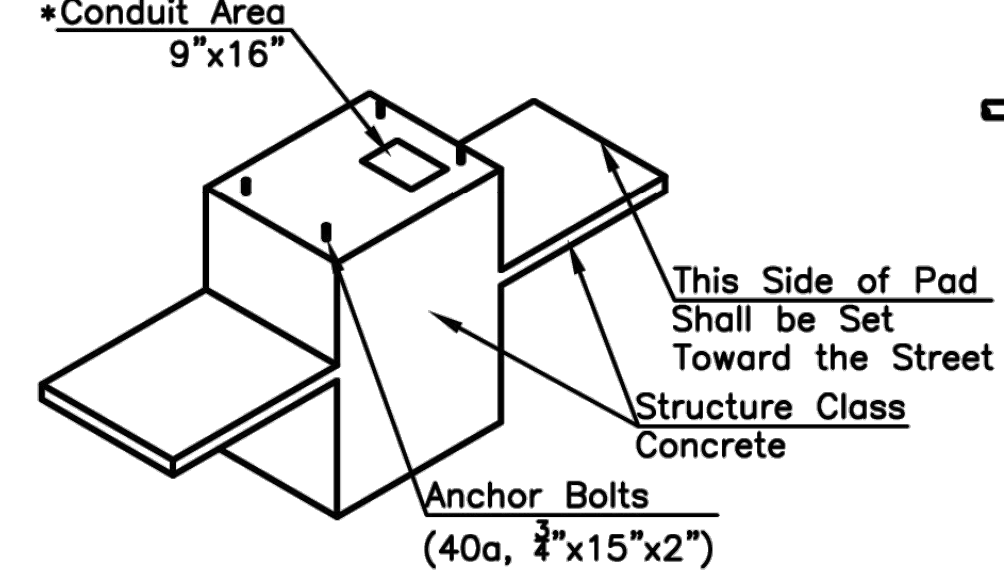


**WITH CURB & GUTTER**

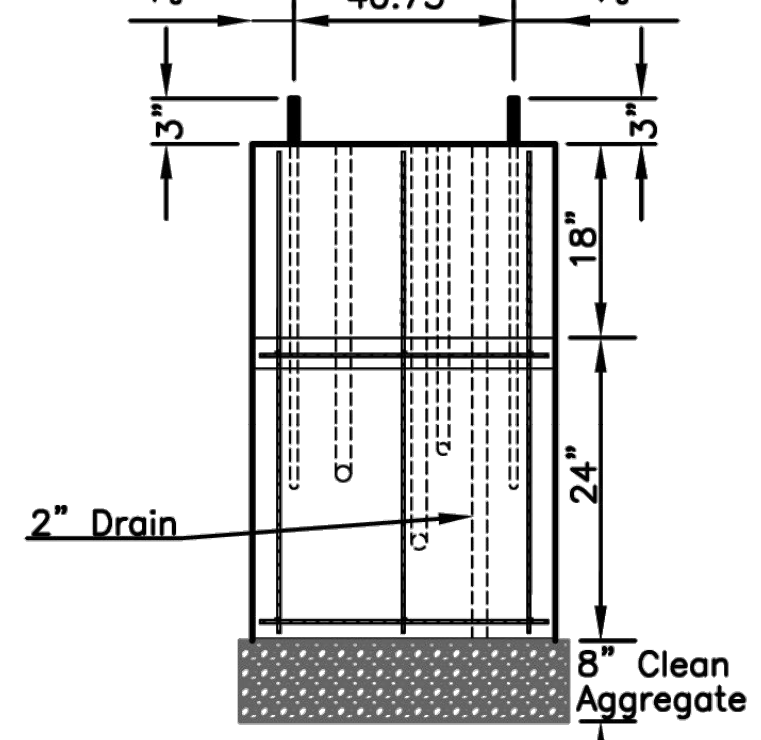
NOTE: Holes shall be drilled before the saw cut.

**LOOP DETECTOR LEAD IN CABLE INSTALLATIONS DETAILS**

\*Contractor shall contact City Traffic Operations for determination of Conduit Area location prior to construction.

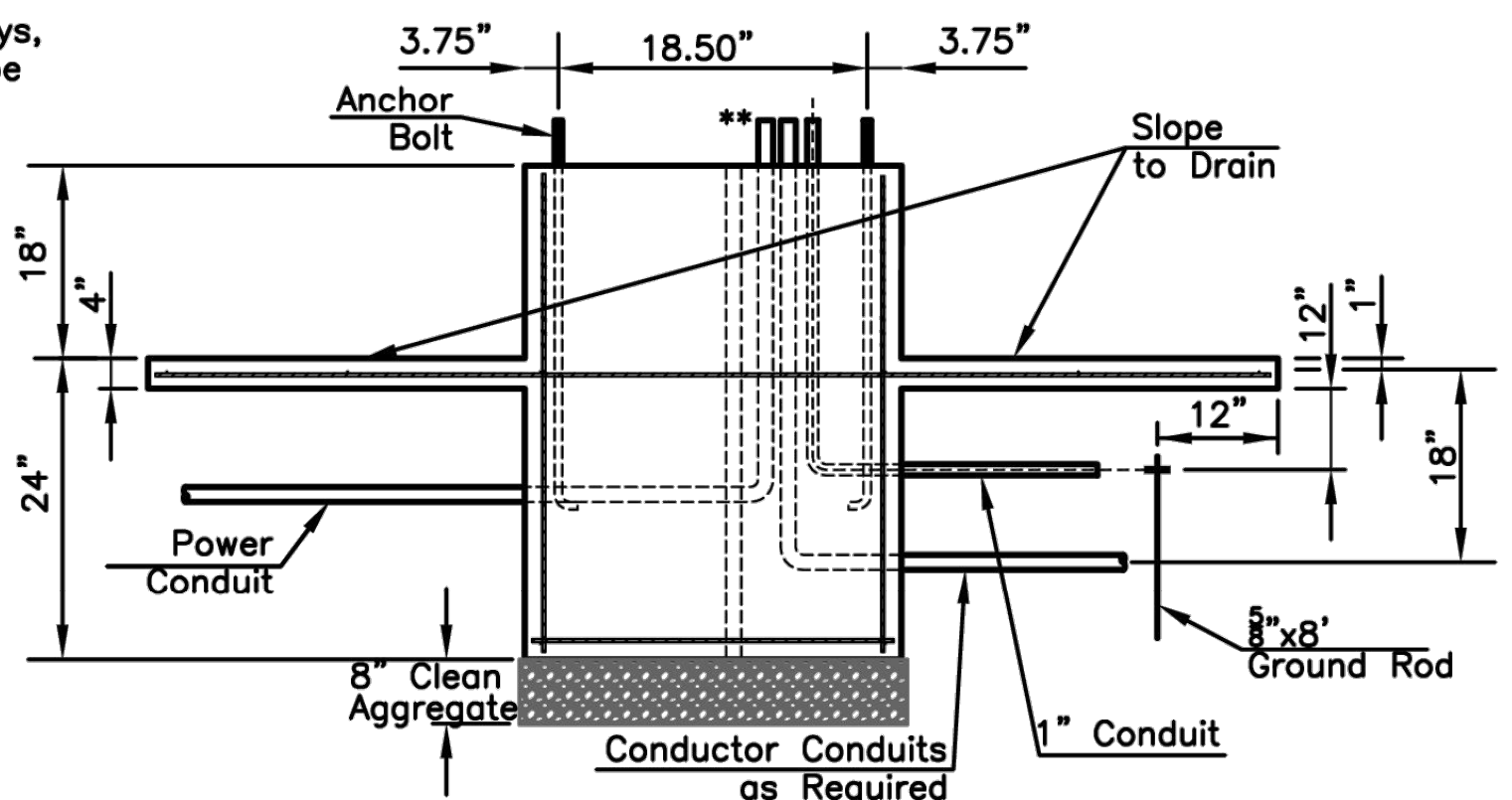
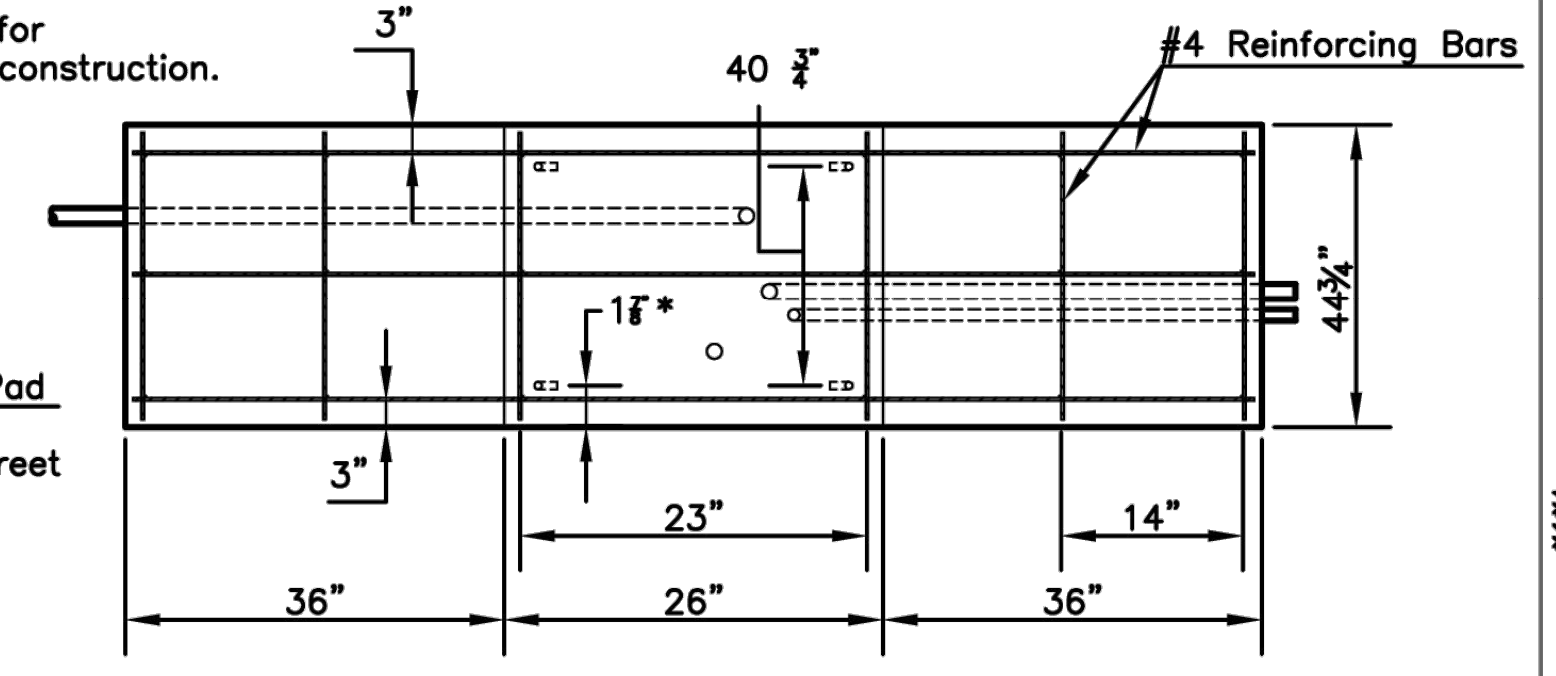


All conduit laying beneath streets, highways, alleys, driveways, and parking lots shall be a minimum of 24" below surface.

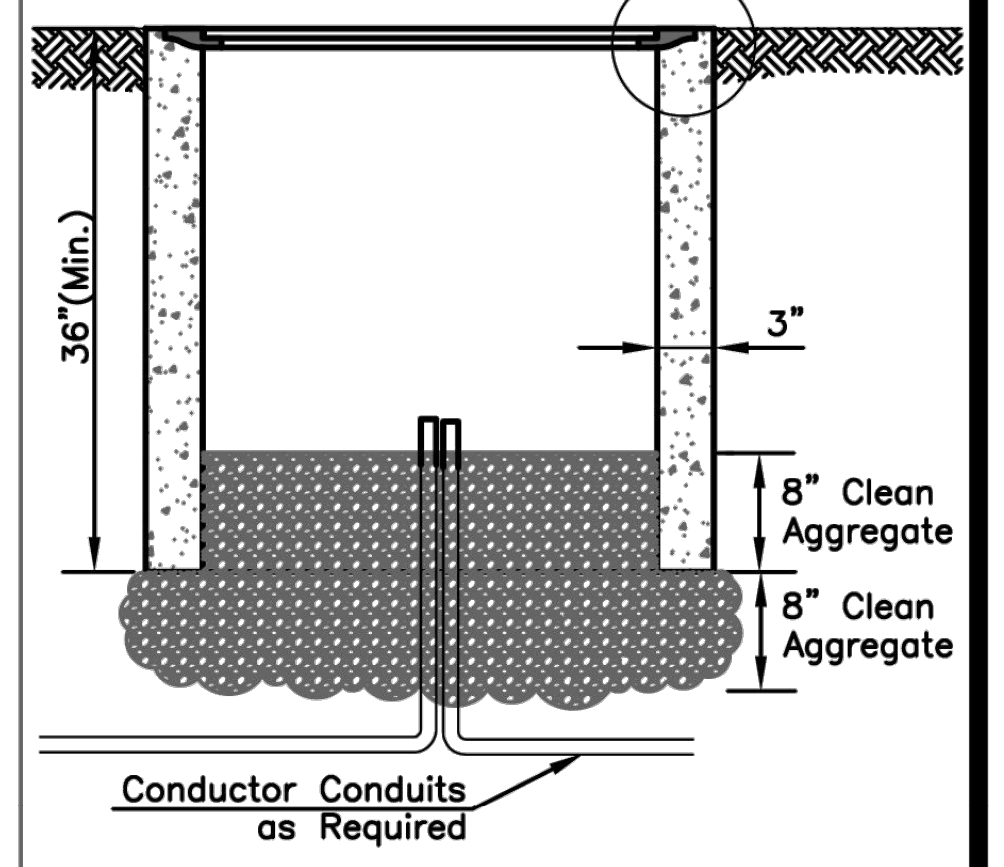


All conduits and anchor bolts for Controller Pads shall be rigidly installed before concrete is placed. Anchor bolts shall be spaced by means of a template, the center of which shall coincide with the center of the base.

**333SD-ITS CONTROLLER PAD DETAIL**



NOTE: At the location where power connection is made, two (2) ground rods, a minimum of six (6) feet apart are required. Ground rods shall be 5/8" x 8'.



NOTE: All conduits shall enter Service Box from the bottom only. Conduits shall not enter Service Box from the side.

**PRE-CAST CONCRETE SERVICE BOX DETAIL**

NO.	DATE	REVISION	DHS	TLC
1	10/5/17	Updated Standard		
			BY: APP'D	

EDITED BY: Doug Spear  
APP'D BY: Terry Coder

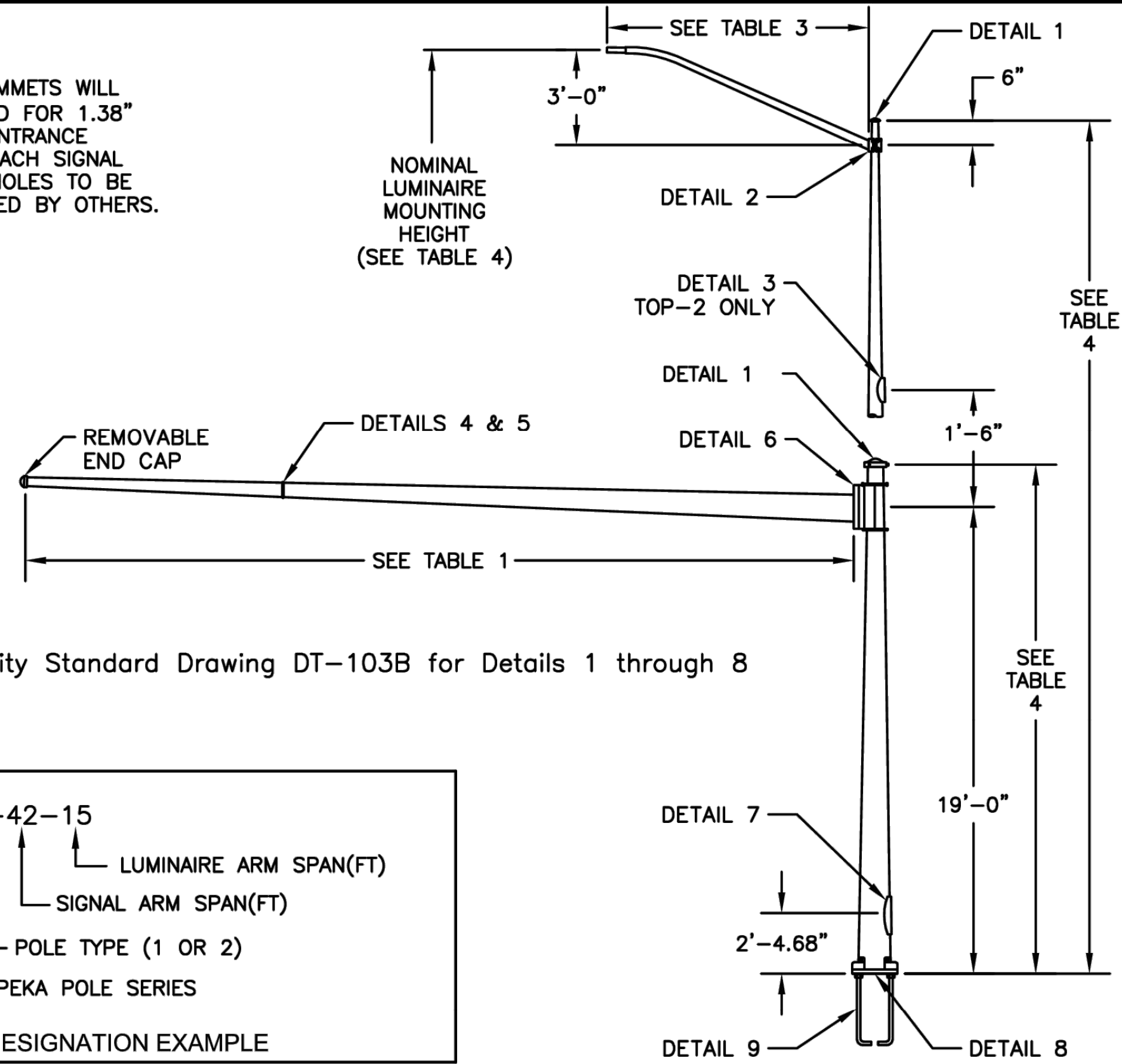
**TOPEKA**  
Public Works  
ENGINEERING  
620 SE MADISON St. • 2nd Floor • TOPEKA, KS 66607  
Phone: (785) 368-3842 • Fax: (785) 368-3881

**STANDARD DETAILS**

**CONTROLLER PAD, JUNCTION BOX, SERVICE BOX, AND LOOP INSTALLATION DETAILS**  
(DT-102)

DATE: APR 2026  
SHEET: 67 OF 122  
PROJ.: 701038.00

NOTE:  
1" I.D. GROMMETS WILL BE SUPPLIED FOR 1.38" DIA. WIRE ENTRANCE HOLES AT EACH SIGNAL LOCATION. HOLES TO BE FIELD DRILLED BY OTHERS.



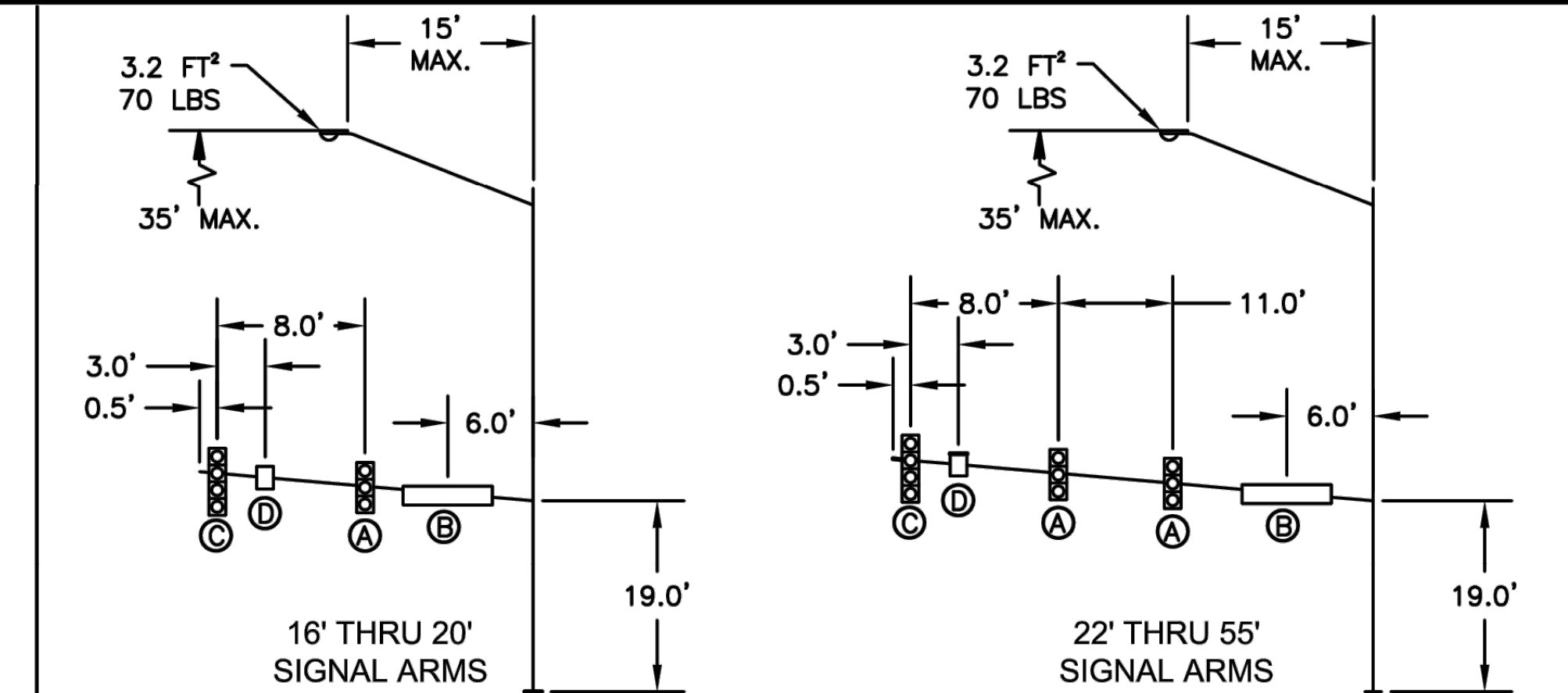
**TOPEKA POLE SERIES**

THE MAST ARM TRAFFIC STRUCTURES SHOWN ON THIS DRAWING HAVE BEEN DESIGNED IN ACCORDANCE WITH THE LOADING AND THE ALLOWABLE STRESS REQUIREMENTS OF THE 2013 AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS", SIXTH EDITION, LTS-6. THE WIND LOADS WERE CALCULATED FROM A BASIC WIND VELOCITY OF 90 MPH WITH A RECURRENCE INTERVAL OF 50 YEARS, AND A FATIGUE CATEGORY OF 2. THE FATIGUE LOADS WERE CALCULATED ON THE REQUIREMENTS OF SECTION 11 OF THE CODE, AND THE FOLLOWING DESIGN CONDITIONS:

- STRUCTURES ARE DESIGNED TO RESIST NATURAL WIND GUSTS BASED ON THE YEARLY MEAN WIND VELOCITY OF 11.2 MPH.
- STRUCTURES ARE NOT DESIGNED TO RESIST GALLOPING-INDUCED CYCLIC LOADS DUE TO THE CUSTOMER SPECIFYING THE USE OF A VIBRATION MITIGATION DEVICE.
- TRUCK-INDUCED GUST LOADS ARE EXCLUDED PER THE REQUIREMENTS OF THE CODE.

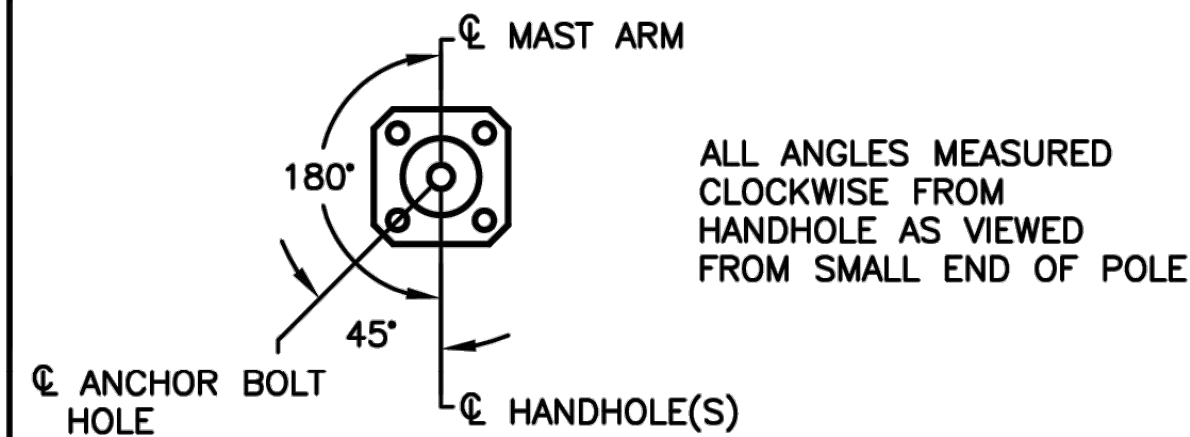
**\*\*NOTE:**  
UPON INITIAL FIELD ASSEMBLY OF THE MAST-ARM'S FIRST SECTION'S BUTT PLATE TO THE MAST-ARM VERTICAL POLE'S BUTT PLATE, IF THE END USER DETERMINES THAT THERE IS A SUFFICIENT GAP AT A BOLT HOLE SUCH THAT THERE WILL NOT BE FACE-TO-FACE CONTACT BETWEEN THE TWO BUTT PLATES, THEN A WASHER SHALL BE INSERTED TO PROVIDE FACE-TO-FACE CONTACT BETWEEN THE TWO BUTT PLATES IN ACCORDANCE WITH SECTION 5.16 "BOLTED CONNECTIONS" OF THE 2013 EDITION OF AASHTO.

AASHTO 2013 SPECIFICATIONS



DEVICE	DESCRIPTION	PROJ. AREA (FT <sup>2</sup> )	WEIGHT (LBS)
(A)	12"-3 SEC. SIGNAL WITH BACK PLATES	8.67	30
(B)	22" X 120" LED STREET NAME SIGN	18.33	102
(C)	12"-4 SEC. SIGNAL WITH BACK PLATES	11.00	45
(D)	24" X 30" SIGNAL ARM MOUNTED SIGN	5.00	15

**MAXIMUM LOADING INFORMATION**



**RADIAL INDEX**

**STANDARD FINISH**  
SYSTEM: GALVANIZED (GV)  
BASE COAT: HOT-DIP GALVANIZED TO ASTM A123  
PRIME COAT: NONE  
FINISH COAT: NONE  
COLOR: NONE  
SPEC: F-1

**SEMI GLOSS BLACK FINISH**  
SYSTEM: FINISH PAINT/GALVANIZED (FPGV)  
BASE COAT: HOT-DIP GALVANIZED TO ASTM A123  
PRIME COAT: NONE  
FINISH COAT: TGIC OR URETHANE POLYESTER POWDER  
COLOR: BLACK  
SPEC: F-283A

**TABLE 1: POLE AND SIGNAL ARM DATA**

DESIGNATION KEY			POLE DATA		POLE BASE					ANCHOR BOLT DATA				SIGNAL ARM DATA				
POLE SERIES	POLE TYPE	SIGNAL ARM SPAN (FT)	BASE DIA. (IN)	LENGTH (FT)	GAUGE OR THK. (IN)	SQUARE "S" (IN)	BOLT CIRCLE "Y" (IN)	THK. "M" (IN)	CENTER HOLE "P" (IN)	HOLE DIA. "Z" (IN)	DIA. "K" (IN)	LENGTH "J" (IN)	HOOK "H" (IN)	THREAD LENGTH "U" (IN)	FIXED END DIA. (IN)	FREE END DIA. (IN)	GAUGE OR THK. (IN)	LENGTH (FT)
TOP	1 OR 2	16.00	13.00	SEE TABLE 4	5	18.00	17.00	2.00	11.50	1.75	1.50	54.00	6.00	8.00	9.00	6.76	7	16.00
		18.00													6.48	7	18.00	
		20.00													6.20	7	20.00	
		22.00													5.92	7	22.00	
		24.00													5.64	7	24.00	
		26.00													5.36	7	26.00	
		28.00													5.08	7	28.00	
		30.00													4.80	7	30.00	
		32.00													4.52	7	32.00	
		34.00													4.24	7	34.00	
		36.00													3.96	7	36.00	
		TOP													1 OR 2	38.00	16.50	SEE TABLE 4
10.00	5.68		7	38.00														
11.00	5.40		7	40.00														
12.00	5.12		7	42.00														
12.00	5.84		7	44.00														
12.00	5.56		7	46.00														
12.00	5.28		7	48.00														
12.00	5.00		7	50.00														
13.00	5.72		7	52.00														
13.00	5.44		7	54.00														
13.00	5.30		7	55.00														
13.00	5.16		7	56.00														
13.00	4.88	7	58.00															
13.00	4.60	7	60.00															
14.50	5.82	7	62.00															
14.50	5.54	7	64.00															

**SIGNAL ARM ATTACHMENT DATA**

ARM BASE DIA. (IN)	POLE BASE DIA. (IN)	"A" (IN)	"B" (IN)	"C" (IN)	"D" (IN)	CENTER HOLE DIA. (IN)	"H" (IN)
9.00	13.00	17.75	14.50	2.00	1.25 X 6.25	7.64	0.38
10.00	13.00	17.75	14.50	2.00	1.25 X 6.25	8.50	0.38
11.00	16.50	21.75	18.50	2.00	1.25 X 6.25	7.00	0.38
12.00	16.50	21.75	18.50	2.00	1.25 X 6.25	8.25	0.38
13.00	16.50	21.75	18.50	2.00	1.25 X 6.25	7.00	0.38
14.50	16.50	21.75	18.50	2.00	1.25 X 6.25	8.50	0.38

**TABLE 4: LUMINAIRE MOUNTING HEIGHT**

POLE TYPE	TOP-1	TOP-2
LUM. MOUNTING HEIGHT	---	35'-0"
POLE LENGTH	20'-6"	32'-6"

**TABLE 3: LUMINAIRE ARM DATA**

SPAN (FT)	FIXED END DIAMETER (IN)	FREE END DIAMETER (IN)	GAUGE
6.00	3.40	2.38	11
8.00	3.63	2.38	11
10.00	3.89	2.38	11
12.00	4.16	2.38	11
15.00	4.57	2.38	11

**TABLE 2: MATERIAL DATA**

COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)
ALL TAPERED TUBES	A595 GR.A OR A572	55
BASE PLATE	A36	36
SIMPLEX PLATE	A36	36
ANCHOR BOLTS	F1554 GR.55	55
LUMINAIRE ARM CLAMP	A572	55
GALVANIZING-HARDWARE	F2329	

EDITED BY: Doug Spoor

APP'D BY: Terry Codar



**STANDARD DETAILS**

**TRAFFIC SIGNAL MAST ARM POLE DETAILS**  
(DT-103A)

DATE: APR 2026

SHEET: 68 OF 122

PROJ.: 701038.00

NO.	DATE	REVISION	BY	APP'D
1	10/2/17	New Standard Drawing 103A (deleted 103)	DHS	TLC